PIONEER®
*The Art of Entertainment*

# Service Manual

ORDER NO.
**ARP2678**

## STEREO DOUBLE CASSETTE DECK

# CT-W802R
# CT-W820R
# CT-W720R

- **Refer to the service manual ARP2547 for CT-W801R AND CT-W701R.**
- **This manual is applicable to the following: CT-W802R/KU, KC and SD; CT-W820R/HB and HEM; CT-W720R/HEM.**

### CT-W802R, CT-W820R AND CT-W720R HAVE THE FOLLOWING:

| Type | Model | | | Power Requirement | Remarks |
|---|---|---|---|---|---|
| | CT-W802R | CT-W820R | CT-W720R | | |
| KU | O | – | – | AC120V only | |
| KC | O | – | – | AC120V only | |
| HEM | – | O | O | AC220 – 230V, 230 – 240V (switchable) * | |
| HB | – | O | – | AC220 – 230V, 230 – 240V (switchable) * | |
| SD | O | – | – | AC110V, 120 – 127V, 220V, 240V (switchable) | |

* Change the connection of the power transformer's primary wiring.

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# 1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

## 1.1 FOR CT-W802R/KU, KC, SD, CT-W820R/HEM AND HB

### CT-W802R/KU, KC, SD, CT-W820R/HEM, HB and CT-W801R/KUC have the same construction except for the following :

| Mark | Symbol & Description | Part No. | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | CT-W801R/ KUC | CT-W802R/ KU | CT-W802R/ KC | CT-W802R/ SD | CT-W820R/ HEM | CT-W820R/ HB | |
| NSP | MAIN unit | RWZ2486 | ..... | ..... | ..... | ..... | ..... | |
| | MAIN unit | ..... | RWZ2942 | RWZ2942 | RWZ3005 | RWZ2944 | RWZ2944 | |
| NSP | DISPLAY unit | RWZ2490 | ..... | ..... | ..... | ..... | ..... | |
| | DISPLAY unit | ..... | RWZ2946 | RWZ2946 | RWZ2946 | RWZ2952 | RWZ2952 | |
| | HP. MIC unit | RWZ2487 | RWZ2487 | RWZ2487 | RWZ2487 | RWZ2506 | RWZ2506 | |
| NSP | OPERATE SW (1) unit | RWZ2488 | RWZ2488 | RWZ2488 | RWZ2488 | RWZ2507 | RWZ2507 | |
| NSP | OPERATE SW (2) unit | RWZ2489 | RWZ2489 | RWZ2489 | RWZ2489 | RWZ2508 | RWZ2508 | |
| NSP | TRANS 2 unit | RWZ2491 | RWZ2491 | RWZ2491 | RWZ2491 | RWZ2510 | RWZ2510 | |
| ⚠ | Strain relief | CM – 22C | CM – 22C | CM – 22C | CM – 22B | CM – 22B | CM – 22B | |
| ⚠ | AC power cord | PDG1015 | PDG1015 | PDG1015 | PDG1013 | PDG1003 | VDG1051 | |
| ⚠ | FU1, FU2 Fuse (1.5A) | REK1001 | DEK1014 | DEK1014 | ..... | ..... | ..... | |
| ⚠ | FU1, FU2 Fuse (1.6A) | ..... | ..... | ..... | REK – 102 | REK – 102 | REK – 102 | |
| ⚠ | T1 Power transformer (AC120V) | RTT1165 | RTT1165 | RTT1165 | ..... | ..... | ..... | |
| ⚠ | T1 Power transformer (AC110/120 – 127/220/240V) | ..... | ..... | ..... | RTT1167 | ..... | ..... | |
| ⚠ | T1 Power transformer (AC220 – 230/230 – 240V) | ..... | ..... | ..... | ..... | RTT1166 | RTT1166 | |
| ⚠ | Voltage selector (AC110/120 – 127/220/240V) | ..... | ..... | ..... | PSB1002 | ..... | ..... | |
| ⊙ | Mechanism unit (DECK I) | RYM1169 | RYM1207 | RYM1207 | RYM1207 | RYM1209 | RYM1209 | |
| ⊙ | Mechanism unit (DECK II) | RYM1170 | RYM1208 | RYM1208 | RYM1208 | RYM1210 | RYM1210 | |
| | Function knob A | RAC1714 | RAC1807 | RAC1807 | RAC1807 | RAC1807 | RAC1807 | |
| | Door pocket R | RAH2073 | RAH2257 | RAH2257 | RAH2257 | RAH2257 | RAH2257 | |
| | Door pocket L | RAH2076 | RAH2258 | RAH2258 | RAH2258 | RAH2258 | RAH2258 | |
| NSP | Rear panel | RNA1569 | RNA1695 | RNA1694 | RNA1698 | RNA1696 | RNA1697 | |
| | Cord clamper | ..... | RNH – 184 | RNH – 184 | RNH – 184 | RNH – 184 | RNH – 184 | *1 |
| | Front panel assembly | RXX1518 | ..... | ..... | ..... | ..... | ..... | |
| NSP | Name plate | PAM1407 | ..... | ..... | ..... | ..... | ..... | |
| | Name plate | ..... | RAM1007 | RAM1007 | RAM1007 | RAM1007 | RAM1007 | |
| NSP | Front panel | RAH2065 | ..... | ..... | ..... | ..... | ..... | |
| | Front panel | ..... | RAH2254 | RAH2254 | RAH2254 | RAH2255 | RAH2255 | |
| | FL lens | RAH2079 | RAH2079 | RAH2079 | RAH2079 | RAH2080 | RAH2080 | |
| | Packing case | RHG1368 | RHG1469 | RHG1469 | RHG1472 | RHG1470 | RHG1471 | |
| | Remote control unit | ..... | ..... | ..... | ..... | RPX1057 | RPX1057 | |
| | Battery cover | ..... | ..... | ..... | ..... | PZN1010 | PZN1010 | |
| NSP | Battery (R03, AAA) | ..... | ..... | ..... | ..... | VEM – 022 | VEM – 022 | |

| Mark | Symbol & Description | Part No. | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | CT-W801R/ KUC | CT-W802R/ KU | CT-W802R/ KC | CT-W802R/ SD | CT-W820R/ HEM | CT-W820R/ HB | |
| | Spacer A | ..... | ..... | ..... | ..... | ..... | RHC1037 | *2 |
| | Spacer B | ..... | ..... | ..... | ..... | ..... | RHC1038 | *3 |
| | Connection cord (with mini plug) | PDE – 319 | PDE – 319 | PDE – 319 | PDE – 319 | ..... | ..... | |
| | Operating instructions (English) | RRB1120 | RRB1124 | ..... | RRB1124 | ..... | RRB1124 | |
| | Operating instructions (English/French) | ..... | ..... | RRE1068 | ..... | ..... | ..... | |
| | Operating instructions (Spanish) | ..... | ..... | ..... | RRD1134 | ..... | ..... | |
| | Operating instructions (English/French/German/Italian/Dutch/ Swedish/Spanish/Portugese) | ..... | ..... | ..... | ..... | RRE1069 | ..... | |

**Note)** *1 – *3 : See " 1.3 EXPLODED VIEW AND PACKING ".

## MAIN UNIT

**RWZ2942, RWZ3005, RWZ2944 and RWZ2486 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|
| | | RWZ2486 | RWZ2942 | RWZ3005 | RWZ2944 | |
| | Q743, Q744 | ..... | 2SC3311A | 2SC3311A | 2SC3311A | |
| | D743 | ..... | 1SS254 | 1SS254 | 1SS254 | |
| | D910 – D912 | 1SS254 | 1SS254 | 1SS254 | ..... | |
| | C741 | ..... | CEAS331M16 | CEAS331M16 | CEAS331M16 | |
| | C910 | CKCYF103Z50 | CKCYF103Z50 | CKCYF103Z50 | ..... | |
| | R743, R744 | RD1/6PM222J | RD1/6PM102J | RD1/6PM102J | RD1/6PM102J | |
| | R745 | ..... | RD1/6PM222J | RD1/6PM222J | RD1/6PM222J | |
| | R746 | ..... | RD1/6PM223J | RD1/6PM223J | RD1/6PM223J | |
| | R747 | ..... | RD1/6PM912J | RD1/6PM912J | RD1/6PM912J | |
| | R748, R749 | ..... | RD1/6PM103J | RD1/6PM103J | RD1/6PM103J | |
| | R804, R854 | RCN1053 | RD1/6PM822J | RD1/6PM822J | RD1/6PM822J | |
| | R719, R720 | RD1/6PM332J | RD1/6PM332J | RD1/6PM222J | RD1/6PM222J | |
| | JA902, JA903 Jack | RKN1004 | RKN1004 | RKN1004 | ..... | |

## DISPLAY UNIT

**RWZ2946, RWZ2952 and RWZ2490 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | RWZ2490 | RWZ2946 | RWZ2952 | |
| | IC1501 | ..... | ..... | HC – 177 | |
| | S1509 (FADE OUT) | ..... | RSG1034 | RSG1034 | |
| | V1501 | RAW1105 | RAW1105 | RAW1107 | |

## HP. MIC UNIT

**Although RWZ2506 and RWZ2487 are different in part number, they consist of the same components.**

## OPERATE SW (1) UNIT

**Although RWZ2507 and RWZ2488 are different in part number, they consist of the same components.**

**OPERATE SW (2) UNIT**
**Although RWZ2508 and RWZ2489 are different in part number, they consist of the same components.**

**TRANS 2 UNIT**
**Although RWZ2510 and RWZ2491 are different in part number, they consist of the same components.**

**MECHEANISM UNIT (DECK I)**
**RYM1207, RYM1209 and RYM1169 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | RYM1169 | RYM1207 | RYM1209 | |
| | Washer | RBF1044 | ..... | ..... | |
| | Gear play | RNK1720 | RNK1867 | RNK1867 | |
| | Arm play L assembly | RXA1405 | ..... | ..... | |
| | Arm play R assembly | RXA1406 | ..... | ..... | |
| | Arm play L | ..... | RNK1866 | RNK1866 | |
| | Arm play R | ..... | RNK1868 | RNK1868 | |
| | Switch mode | RSN1020 | RSN1022 | RSN1022 | |
| | Solenoid | RXP1017 | RXP1020 | RXP1020 | |
| | Motor assembly | RXM1052 | RXM1060 | RXM1061 | |
| | Belt main | REB1159 | REB1159 | REB1162 | |
| | Gear FW R | ..... | ..... | RNK1733 | |
| | Flywheel assembly L | RXA1423 | RXA1423 | RXA1476 | |
| | Flywheel assembly R | RXA1424 | RXA1424 | ..... | |
| | Flywheel R | ..... | ..... | RXA1415 | |

**MECHEANISM UNIT (DECK II)**
**RYM1208, RYM1210 and RYM1170 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | RYM1170 | RYM1208 | RYM1210 | |
| | Washer | RBF1044 | ..... | ..... | |
| | Gear play | RNK1720 | RNK1867 | RNK1867 | |
| | Arm play L assembly | RXA1405 | ..... | ..... | |
| | Arm play R assembly | RXA1406 | ..... | ..... | |
| | Arm play L | ..... | RNK1866 | RNK1866 | |
| | Arm play R | ..... | RNK1868 | RNK1868 | |
| | Switch mode | RSN1020 | RSN1022 | RSN1022 | |
| | Motor assembly | RXM1052 | RXM1060 | RXM1061 | |
| | Solenoid | RXP1017 | RXP1020 | RXP1020 | |
| | Belt main | REB1159 | REB1159 | REB1162 | |
| | Gear FW R | ..... | ..... | RNK1733 | |
| | Flywheel assembly L | RXA1423 | RXA1423 | RXA1476 | |
| | Flywheel assembly R | RXA1424 | RXA1424 | ..... | |
| | Flywheel R | ..... | ..... | RXA1415 | |

## 1.2 FOR CT-W720R/HEM

### CT-W720R/HEM and CT-W701R/HEM have the same construction except for the following:

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | CT-W701R/HEM | CT-W720R/HEM | |
| NSP | MAIN unit | RWZ2517 | ..... | |
| | MAIN unit | ..... | RWZ2945 | |
| NSP | DISPLAY unit | RWZ2521 | ..... | |
| | DISPLAY unit | ..... | RWZ2953 | |
| | Function knob A | RAC1824 | RAC1806 | |
| | Door pocket R | RAH2074 | RAH2219 | |
| | Door pocket L | RAH2077 | RAH2259 | |
| NSP | Front panel | RAH2067 | ..... | |
| | Front panel | ..... | RAH2256 | |
| NSP | Rear panel | RNA1574 | RNA1699 | |
| NSP | Name plate | PAM1407 | ..... | |
| | Name plate | ..... | RAM1007 | |
| | Cord clamper | ..... | RNH – 184 | *1 |
| ⊙ | Mechanism unit (DECK I) | RYM1172 | RYM1209 | |
| ⊙ | Mechanism unit (DECK II) | RYM1173 | RYM1210 | |
| | Front panel assembly | RXX1519 | ..... | |
| | Packing case | RHG1372 | RHG1473 | |
| | Operating instructions (English/French/German/Italian/Dutch/Swedish/ Spanish/Portuguese) | RRE1063 | RRE1069 | |

**Note)** *1 : See " 1.3 EXPLODED VIEW AND PACKING ".

### MAIN UNIT

### RWZ2945 and RWZ2517 have the same construction except for the following:

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RWZ2517 | RWZ2945 | |
| | Q743, Q744 | ..... | 2SC3311A | |
| | D743 | ..... | 1SS254 | |
| | C741 | ..... | CEAS331M16 | |
| | R743, R744 | RD1/6PM222J | RD1/6PM102J | |
| | R745 | ..... | RD1/6PM222J | |
| | R746 | ..... | RD1/6PM223J | |
| | R747 | ..... | RD1/6PM912J | |
| | R748, R749 | ..... | RD1/6PM103J | |
| | R804, R854 | RCN1053 | RD1/6PM822J | |

### DISPLAY UNIT

### RWZ2953 and RWZ2521 have the same construction except for the following:

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RWZ2521 | RWZ2953 | |
| | S1509 (FADE OUT) | ..... | RSG1034 | |

## MECHANISM UNIT (DECK I)

**RYM1209 and RYM1172 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RYM1172 | RYM1209 | |
| | Washer | RBF1044 | ..... | |
| | Gear play | RNK1720 | RNK1867 | |
| | Arm play L assembly | RXA1405 | ..... | |
| | Arm play R assembly | RXA1406 | ..... | |
| | Arm play L | ..... | RNK1866 | |
| | Arm play R | ..... | RNK1868 | |
| | Switch mode | RSN1020 | RSN1022 | |
| | Motor assembly | RXM1051 | RXM1061 | |
| | Solenbid | RXP1017 | RXP1020 | |

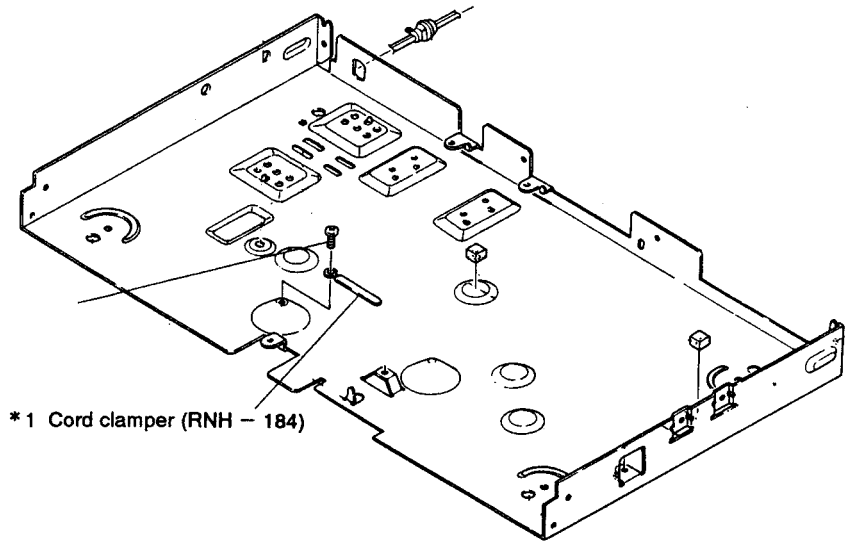
## MECHANISM UNIT (DECK II)

**RYM1210 and RYM1173 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RYM1173 | RYM1210 | |
| | Washer | RBF1044 | ..... | |
| | Gear play | RNK1720 | RNK1867 | |
| | Arm play L assembly | RXA1405 | ..... | |
| | Arm play R assembly | RXA1406 | ..... | |
| | Arm play L | ..... | RNK1866 | |
| | Arm play R | ..... | RNK1868 | |
| | Switch mode | RSN1020 | RSN1022 | |
| | Motor assembly | RXM1051 | RXM1061 | |
| | Solenoid | RXP1017 | RXP1020 | |

## 1.3 EXPLODED VIEW AND PACKING

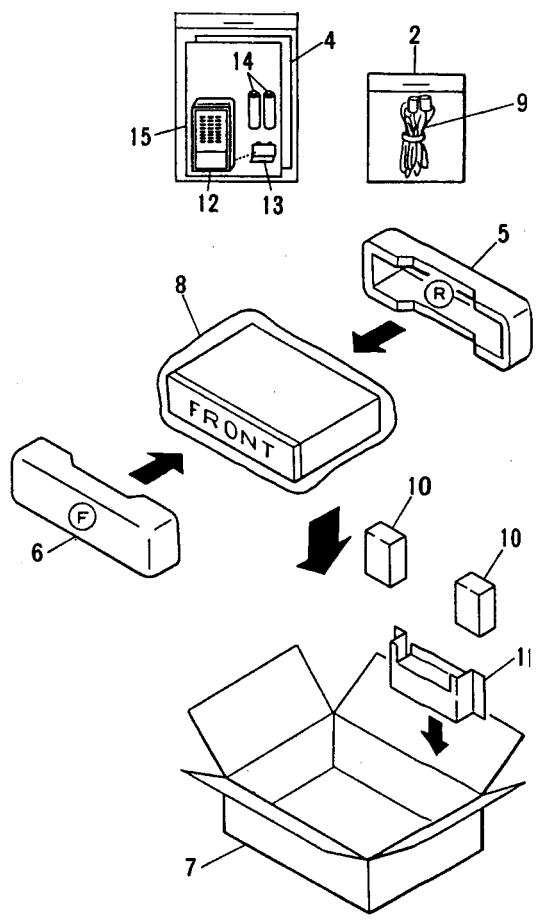
### ● EXPLODED VIEW




### ● PACKING AND PARTS LIST

**Parts List (CT-W820R/HB type only)**

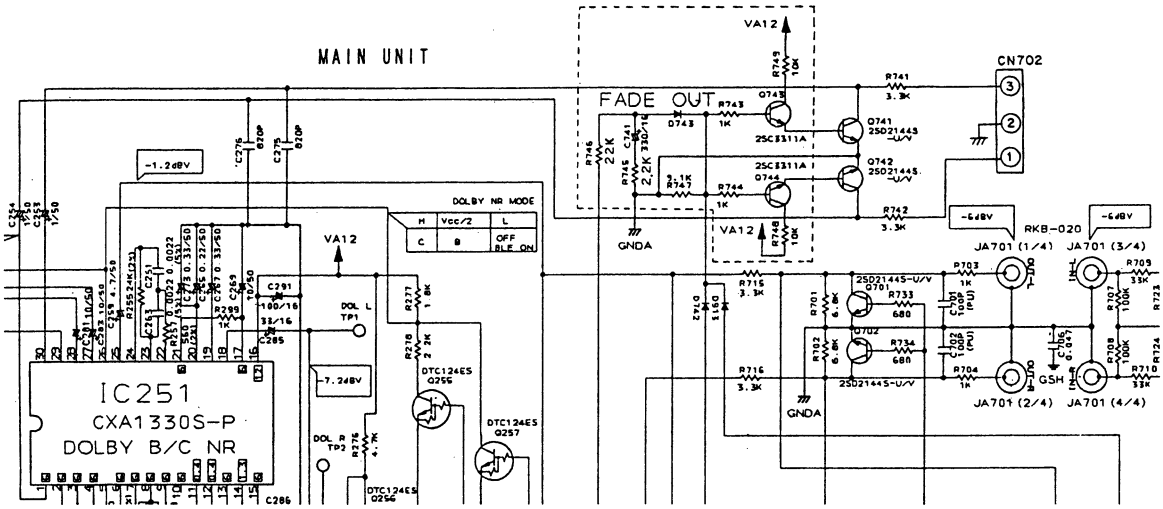
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | ..... | |
| | 2 | Connection cord assembly | RDE1002 |
| | 3 | ..... | |
| | 4 | Operating instructions | RRB1124 |
| | 5 | Pad (R) | RHA1045 |
| | 6 | Pad (F) | RHA1088 |
| | 7 | Packing case | RHG1471 |
| | 8 | Sheet | RHX – 034 |
| | 9 | Control cord | RDE1030 |
| *2 | 10 | Spacer A | RHC1037 |
| *3 | 11 | Spacer B | RHC1038 |
| | 12 | Remote control (includes No.13) | RPX1057 |
| | 13 | Battery cover | PZN1010 |
| NSP | 14 | Battery (R03, AAA) | VEM – 022 |
| NSP | 15 | Warranty card | ARW – 088 |

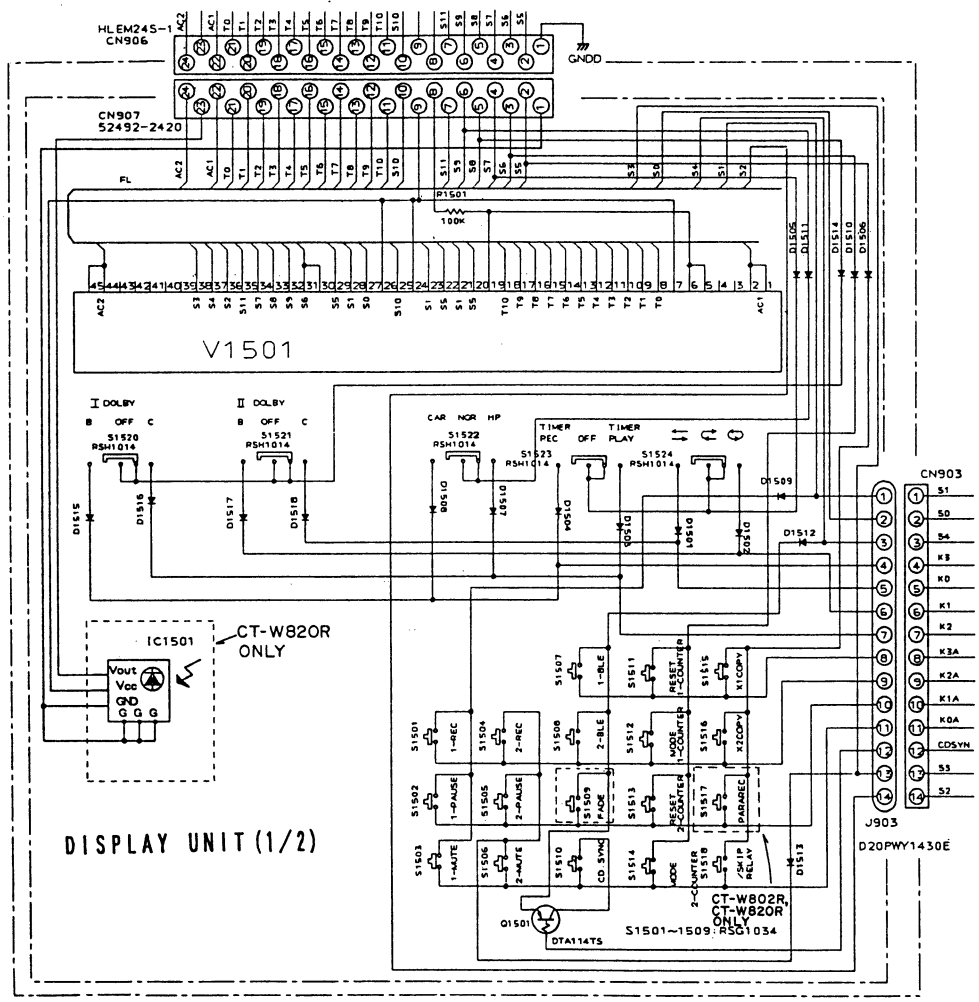


## 1.4 SCHEMATIC AND PCB DIAGRAM

- **CT-W802R/KU, KC, SD, CT-W820R/HEM, HB and CT-W801R/KUC are the same as except for the circuit indicated with [ ].**
- **CT-W720R/HEM and CT-W701R/HEM are the same as except for the circuit indicated with [ ].**

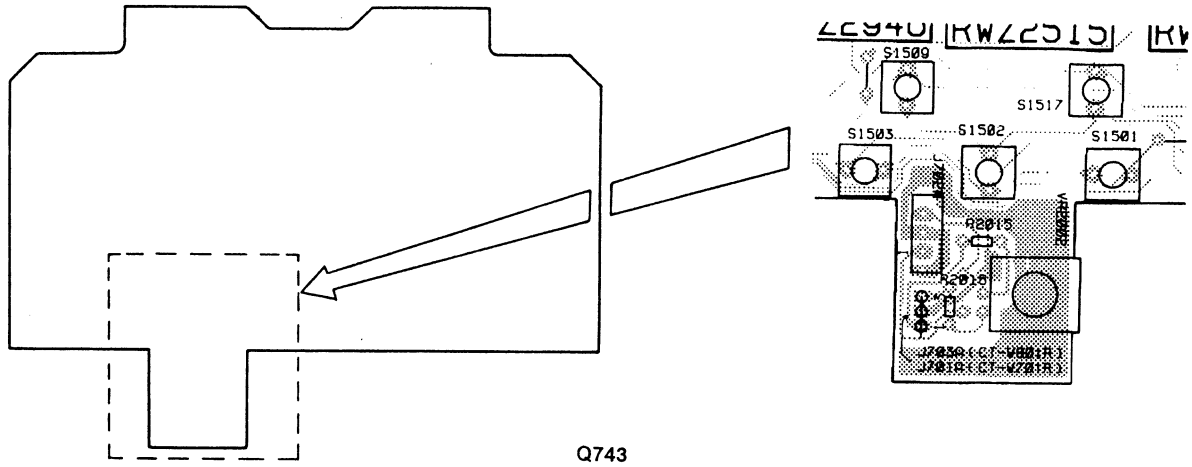
### ● SCHEMATIC DIAGRAM



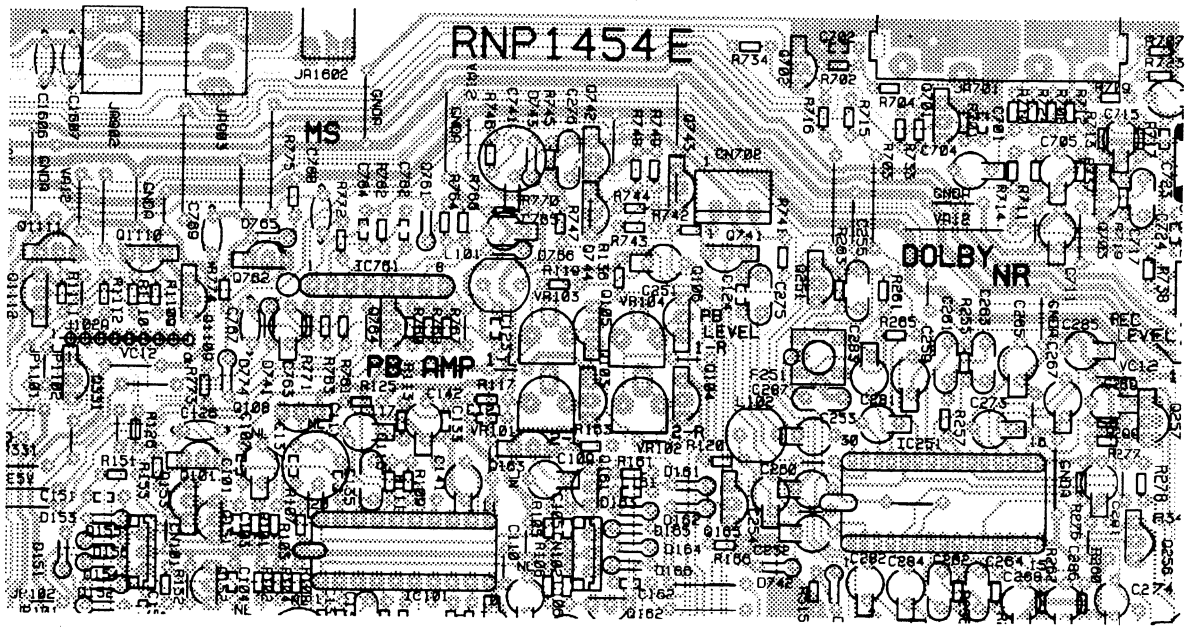



## ● PCB DIAGRAM

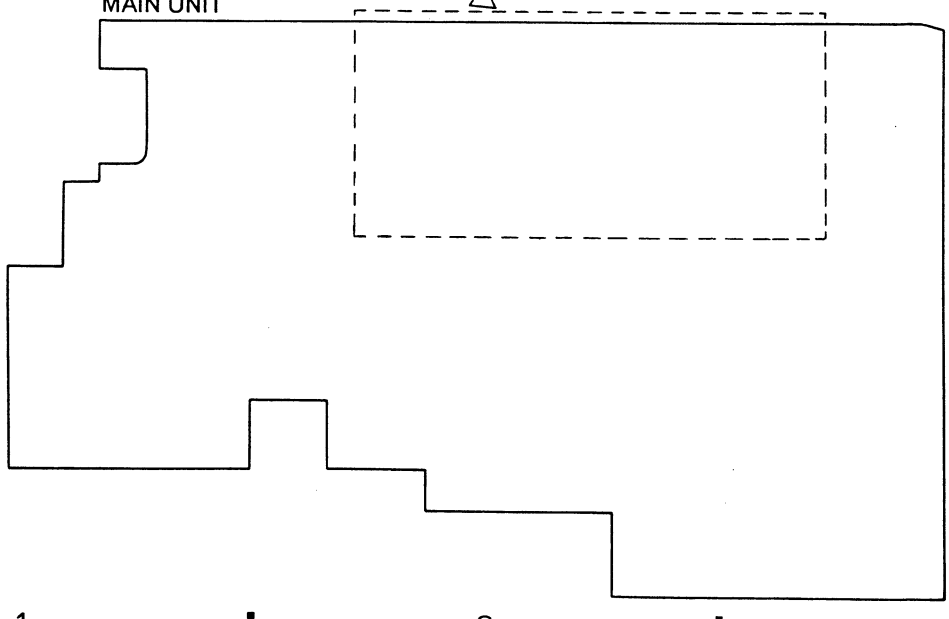
DISPLAY UNIT




Q743
Q744




MAIN UNIT



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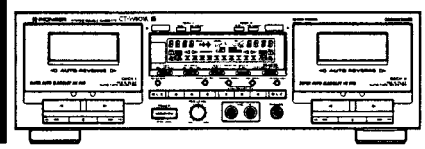
# Service Manual



ORDER NO.
**ARP2547**

## STEREO DOUBLE CASSETTE DECK

# CT-W801R
# CT-W851R
# CT-W701R

### CT-W801R, CT-W851R AND CT-W701R HAVE THE FOLLOWING:

| Type | Model | | | Power Requirement | Remarks |
|---|---|---|---|---|---|
| | CT-W801R | CT-W851R | CT-W701R | | |
| KUC | O | – | O | AC120V only | |
| KUC/CA | O | – | O | AC120V only | |
| HEM | – | O | O | AC220 – 230V, 230 – 240V (Switchable) * | |
| HB | – | O | O | AC220 – 230V, 230 – 240V (Switchable) * | |
| SD | O | – | – | AC110V, 120 – 127V, 220V, 240V (Switchable) | |

* Change the connection of the power transformer's primary wiring.

- **This manual is applicable to the following: CT-W801R/KUC, KUC/CA, and SD; CT-W851R/HEM and HB; CT-W701R/KUC, KUC/CA, HEM and HB.**
- **For the following: CT-W801R/SD; CT-W851R/HEM and HB, refer to page 63. For the following: CT-W701R/HEM and HB, refer to page 65.**
- **Ce manuel pour le service comprend les explications de réglage en français.**
- **Este manual de servicio trata del método ajuste escrito en español.**
- **KUC/CA type is identical to KUC type with French instruction manual. For all information except for the instruction, refer to KUC type.**

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# CT-W801R, CT-W701R

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**This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.**
**Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

WARNING
**Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).**
**When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.**

# 1. SAFETY INFORMATION

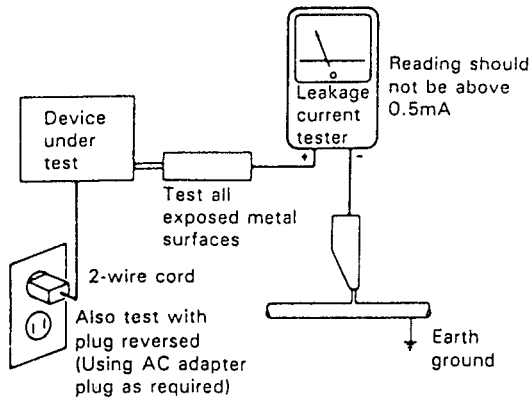
(FOR USA MODEL ONLY)

### 1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

### 2. PRODUCT SAFETY NOTICE

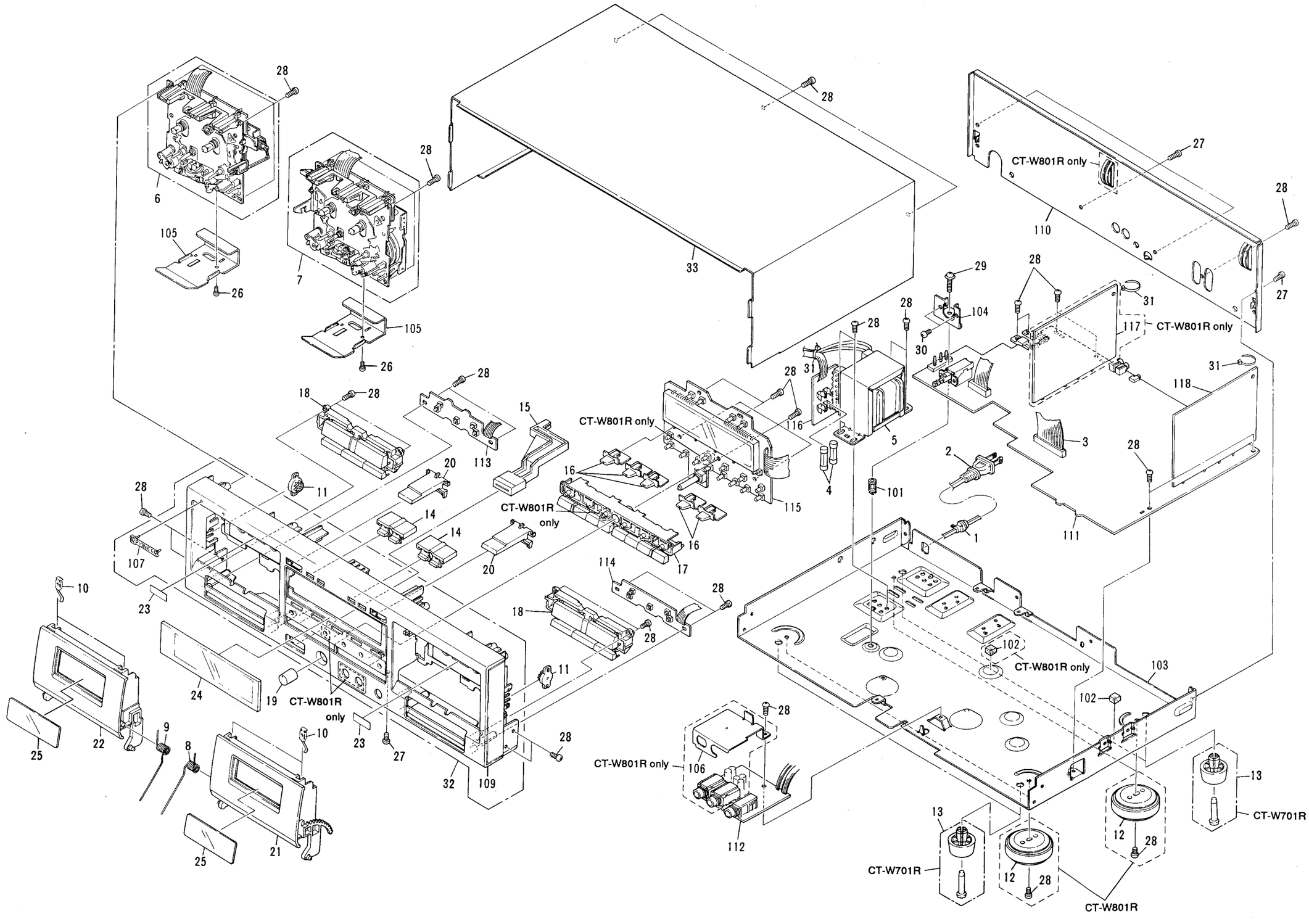
Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

# 2. EXPLODED VIEWS AND PARTS LIST

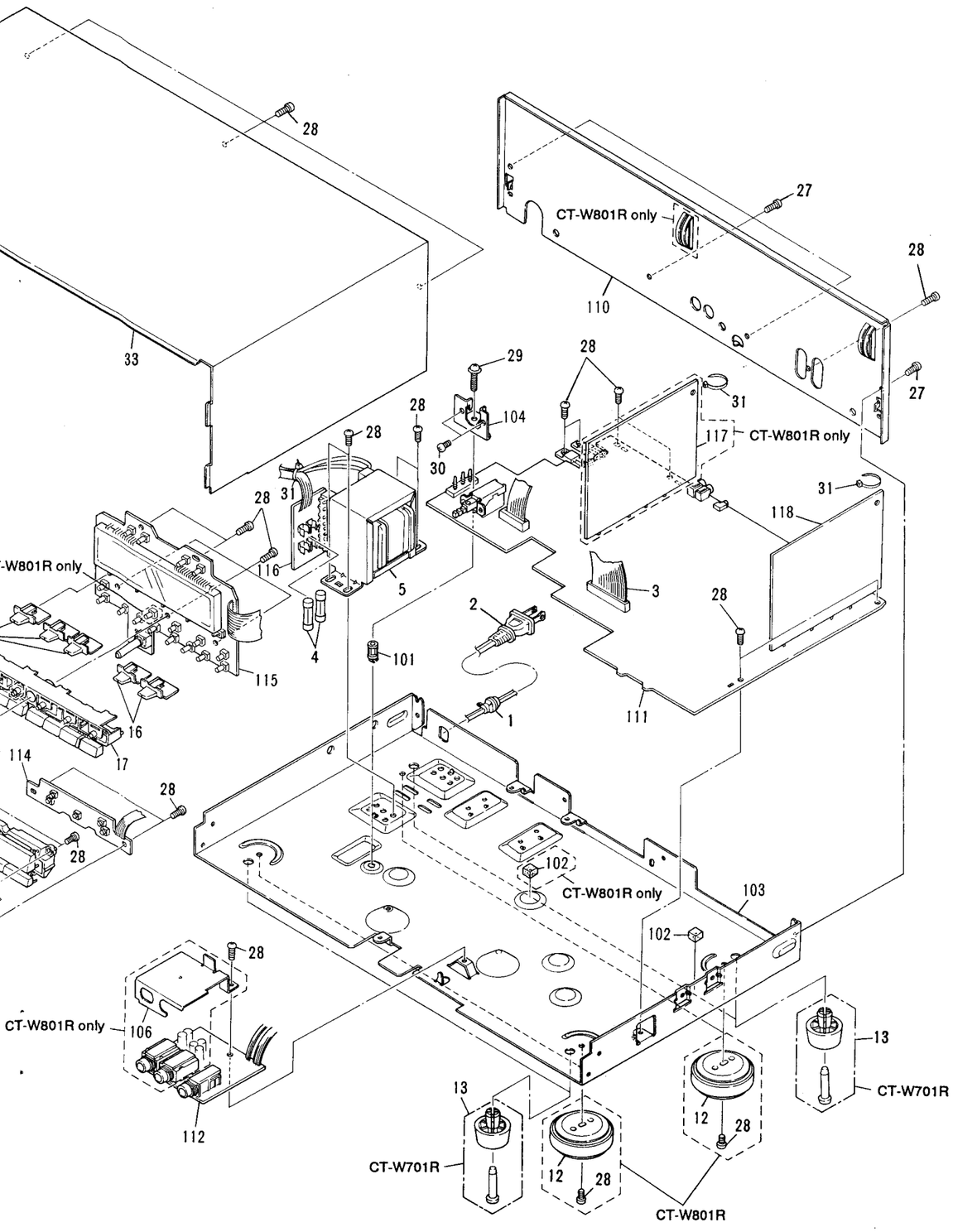
## 2.1 EXTERIOR (CT-W801R/KUC, KUC/CA AND CT-W701R/KUC, KUC/CA TYPES)




NOTES:
- Parts m
- The ⚠
  to use p
- Parts m

**Parts l**

| Mark | N |
|---|---|
| ⚠ | |
| ⚠ | |
| ⚠ | |
| ⚠ | |
| ⊙ | |
| ⊙ | |




NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

## Parts List

| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | Strain relief | CM – 22C |
| ⚠ | 2 | AC power cord | PDG1015 |
| | 3 | Lead card 24P | RDD1265 |
| ⚠ | 4 | FU1, FU2 Fuse (1.5A) | REK1001 |
| ⚠ | 5 | Power transformer | RTT1165 |
| ⊙ | 6 | Mechanism unit (Deck I) | RYM1169 |
| ⊙ | 7 | Mechanism unit (Deck II) | RYM1170 |
| | 8 | Door spring L | RBH1304 |
| | 9 | Door spring R | RBH1305 |
| | 10 | Half pressure spring | RBK1004 |
| | 11 | Damper assembly | REC1005 |
| | 12 | Insulator (CT-W801R) | PNW1912 |
| | 13 | Foot assembly (CT-W701R) | PXA1201 |
| | 14 | Counter knob | RAC1426 |
| | 15 | Power knob | RAC1712 |
| | 16 | Slide knob | RAC1713 |
| | 17 | Function knob A (CT-W801R) | RAC1714 |
| | | Function knob A (CT-W701R) | RAC1716 |
| | 18 | Function knob B | RAC1717 |
| | 19 | VR knob | RAC1719 |
| | 20 | Eject knob | RAC1722 |
| | 21 | Door pocket R (CT-W801R) | RAH2073 |
| | | Door pocket R (CT-W701R) | RAH2074 |
| | 22 | Door pocket L (CT-W801R) | RAH2076 |
| | | Door pocket L (CT-W701R) | RAH2077 |
| | 23 | Remain display paper | REE – 113 |
| | 24 | FL lens | RAH2079 |
| | 25 | Door lens | RAH2086 |
| | 26 | Screw | BBZ20P040FMC |
| | 27 | Screw | BBZ30P060FZK |
| | 28 | Screw | BBZ30P080FMC |
| | 29 | Screw | IBZ30P150FCU |
| | 30 | Screw | PMA30P060FMC |
| | 31 | Cord clamper | REC – 371 |
| | 32 | Front panel assembly (CT-W801R) | RXX1518 |
| | | Front panel assembly (CT-W701R) | RXX1519 |
| | 33 | Bonnet assembly | RXX1521 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 101 | PCB spacer | PNY – 404 |
| NSP | 102 | PCB spacer (rubber) | REB1201 |
| NSP | 103 | Main chassis | RNB1070 |
| NSP | 104 | SW bracket | RNE1441 |
| NSP | 105 | Mechanism shield plate | RNE1519 |
| NSP | 106 | Shield case (CT-W801R only) | RNE1520 |
| NSP | 107 | Name plate | PAM1407 |
| | 108 | ····· | |
| NSP | 109 | Front panel (CT-W801R) | RAH2065 |
| NSP | | Front panel (CT-W701R) | RAH2067 |
| NSP | 110 | Rear panel (CT-W801R) | RNA1569 |
| NSP | | Rear panel (CT-W701R) | RNA1573 |
| NSP | 111 | MAIN unit (CT-W801R) | RWZ2486 |
| NSP | | MAIN unit (CT-W701R) | RWZ2511 |
| NSP | 112 | HP, MIC unit (CT-W801R) | RWZ2487 |
| NSP | | HP unit (CT-W701R) | RWZ2512 |
| NSP | 113 | OPERATE SW (1) unit (CT-W801R) | RWZ2488 |
| NSP | | OPERATE SW (1) unit (CT-W701R) | RWZ2513 |
| NSP | 114 | OPERATE SW (2) unit (CT-W801R) | RWZ2489 |
| NSP | | OPERATE SW (2) unit (CT-W701R) | RWZ2514 |
| NSP | 115 | DISPLAY unit (CT-W801R) | RWZ2490 |
| NSP | | DISPLAY unit (CT-W701R) | RWZ2515 |
| NSP | 116 | TR SEC unit (CT-W801R) | RWZ2491 |
| NSP | | TR SEC unit (CT-W701R) | RWZ2516 |
| NSP | 117 | REC (1) unit (CT-W801R only) | RWX1065 |
| NSP | 118 | REC (2) unit (CT-W801R) | RWX1066 |
| NSP | | REC unit (CT-W701R) | RWX1057 |

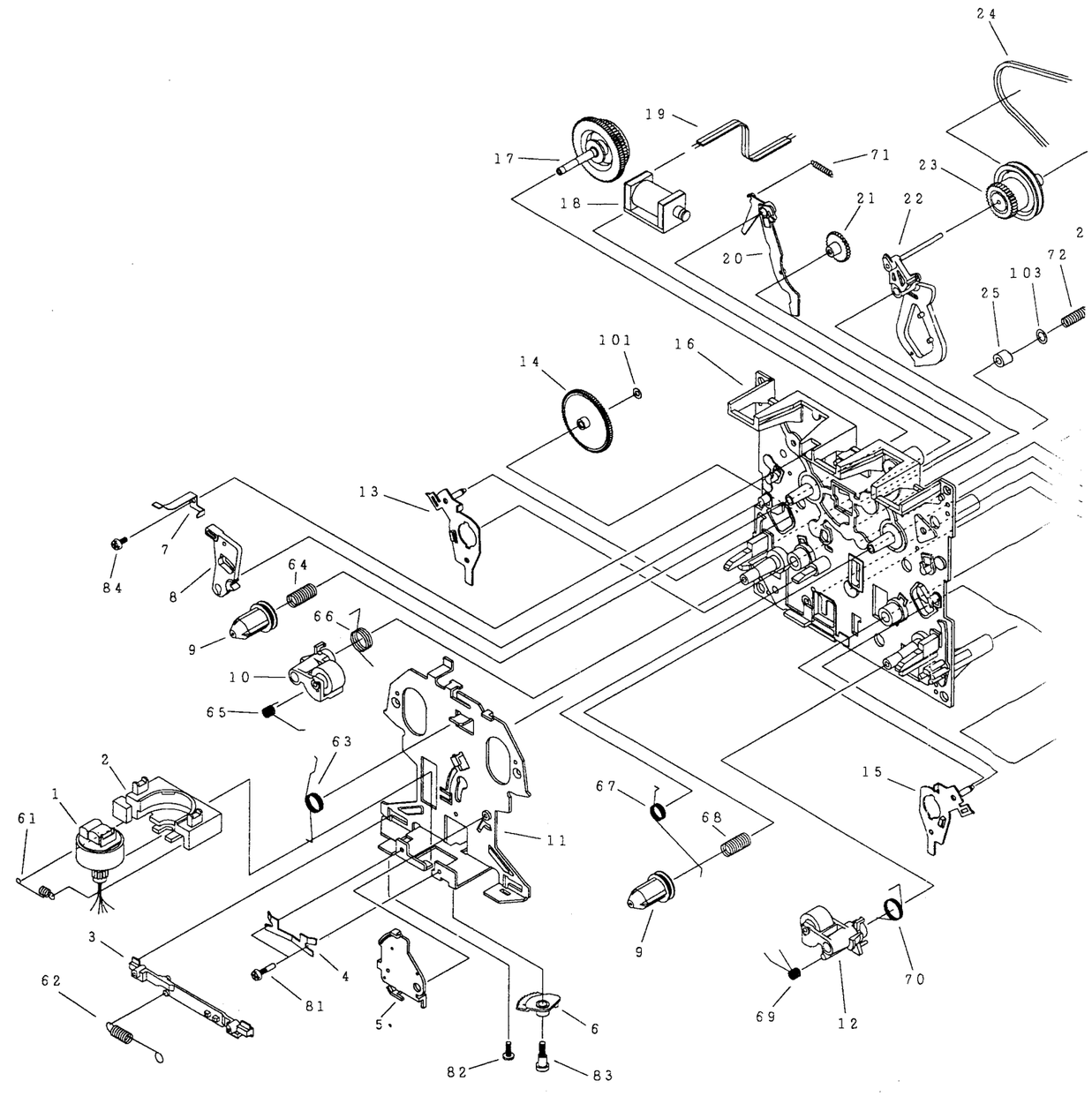
## 2.2 MECHANISM UNIT (CT-W801R/KUC, KUC/CA, SD, CT-W701R/KUC AND KUC/CA TYPES)

### Parts List

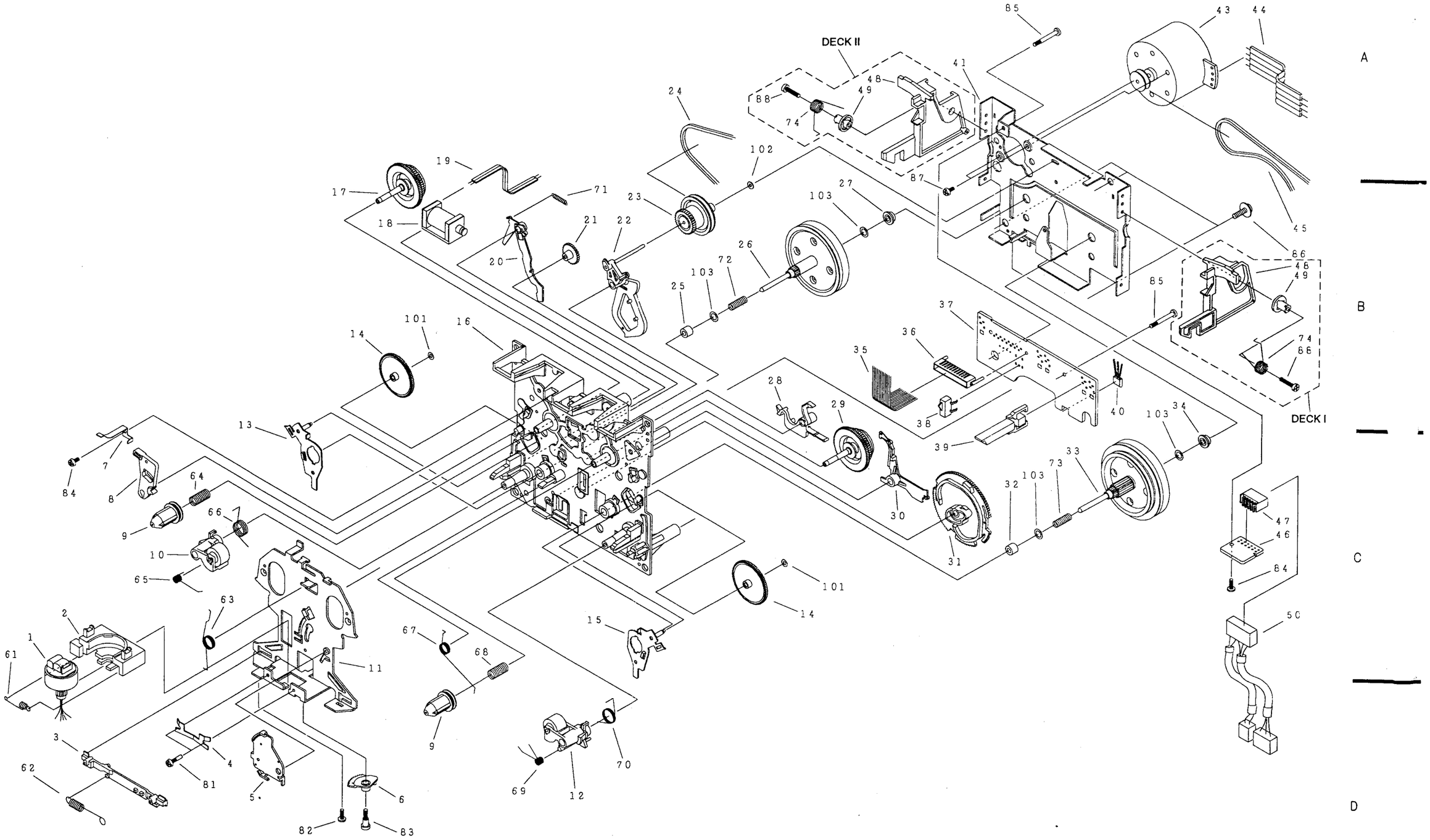
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | ASS'Y HOLDER HEAD | RXA1477 |
| | 2 | FLAME HEAD | RNK1715 |
| | 3 | LEVER HEAD | RNK1716 |
| | 4 | SPRING AZIMUTH | RBK1006 |
| | 5 | ASS'Y ARM ASSIST | RXA1401 |
| | 6 | GEAR ARM HEAD | RNK1717 |
| | 7 | SPRING CASSETTE | RBK1039 |
| | 8 | EJECT LOCK | RNK1718 |
| | 9 | CAP REEL | RNK1719 |
| | 10 | ASS'Y PINCH ARM L | RXA1403 |
| | 11 | CHASSIS HEAD | RNE1437 |
| | 12 | ASS'Y PINCH ARM R | RXA1404 |
| | 13 | ASS'Y ARM PLAY L | RXA1405 |
| | 14 | GEAR PLAY | RNK1720 |
| | 15 | ASS'Y ARM PLAY R | RXA1406 |
| | 16 | CHASSIS 0S | RXA1411 |
| | 17 | ASS'Y SUB REEL L | RXA1407 |
| ⚠ | 18 | SOLENOID | RXP1017 |
| | 19 | WIRE | RDC1006 |
| | 20 | ARM RVS | RNK1721 |
| | 21 | GEAR FF | RNK1723 |
| | 22 | ASS'Y ARM FR | RXA1412 |
| | 23 | ASS'Y PULLEY FR | RXA1413 |
| | 24 | BELT FR | REB1158 |
| | 25 | METAL | RNG1048 |
| | 26 | ASS'Y FLYWHEEL L | RXA1423 |
| | 27 | METAL | RNG1005 |
| | 28 | ARM BRAKE | RNK1724 |
| | 29 | ASS'Y SUB REEL R | RXA1408 |
| | 30 | ARM TRIGGER | RNK1722 |
| | 31 | GEAR CAM | RNK1725 |
| | 32 | METAL | RNG1049 |
| | 33 | ASS'Y FLYWHEEL R | RXA1424 |
| | 34 | METAL | RNG1004 |
| | 35 | WIRE | RDD1257 |
| NSP | 36 | HOLDER WIRE | RNK1683 |
| | 37 | P.C. BOARD | RNP1347 |
| | 38 | SWITCH MODE | RSN1020 |
| | 39 | SWITCH (LEAF) | RSN1019 |
| | 40 | HALL IC. | DN6851A |
| | 41 | BRACKET FW | RNE1438 |
| | 42 | ..... | |
| | 43 | ASS'Y MOTOR | RXM1052 |
| NSP | 44 | WIRE | RDD1012 |
| | 45 | BELT MAIN | REB1159 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 46 | P.C. BOARD | RNP1348 |
| | 47 | HOUSING | RKP1397 |
| | 48 | EJECT LEVER R (DECK I) | RNK1703 |
| | | EJECT LEVER L (DECK II) | RNK1702 |
| | 49 | COLLAR | RNK1704 |
| | 50 | WIRE HEAD (DECK I) | RKP1505 |
| | | WIRE HEAD (DECK II) | RKP1399 |
| | 61 | SPRING | RBH1282 |
| | 62 | SPRING | RBH1283 |
| | 63 | SPRING | RBH1284 |
| | 64 | SPRING | RBH1286 |
| | 65 | SPRING | RBH1288 |
| | 66 | SPRING | RBH1290 |
| | 67 | SPRING | RBH1285 |
| | 68 | SPRING | RBH1287 |
| | 69 | SPRING | RBH1289 |
| | 70 | SPRING | RBH1291 |
| | 71 | SPRING | RBH1292 |
| | 72 | FWR SPRING | RBH1061 |
| | 73 | FWF SPRING | RBH1325 |
| | 74 | SPRING (DECK I) | RBH1293 |
| | | SPRING (DECK II) | RBH1294 |
| | 81 | SCREW (AZIMUTH) | RBA1023 |
| | 82 | SCREW | RBA1027 |
| | 83 | SCREW | RBA1030 |
| | 84 | SCREW | PCZ20P040FMC |
| | 85 | SCREW | RBA1093 |
| | 86 | SCREW | RBA1094 |
| | 87 | SCREW | RBA1086 |
| | 88 | SCREW | RBA1095 |
| | 101 | WASHER | RBF1044 |
| | 102 | WASHER | RBF1046 |
| | 103 | WASHER | WA26D047D013 |

### Mechanism Unit



## Mechanism Unit



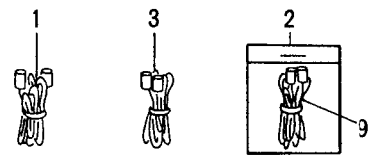
# 3. PACKING AND PARTS LIST

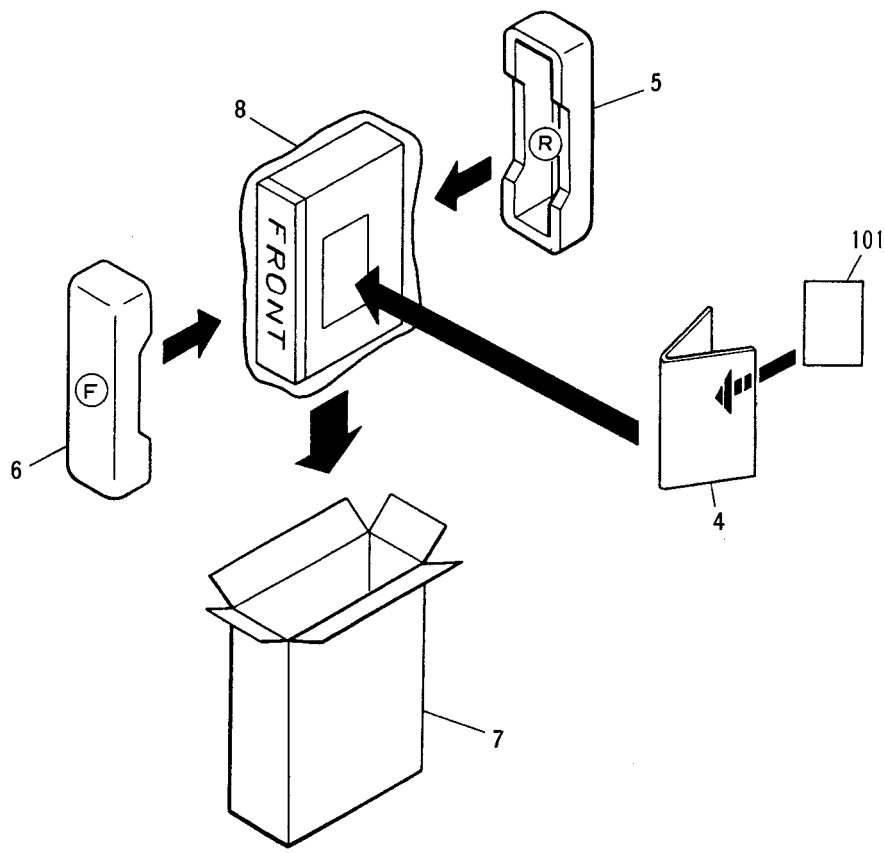
NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

## Parts List (CT-W801R/KUC, KUC/CA and CT-W701R/KUC, KUC/CA types)

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Connection cord (with mini plug) | PDE – 319 |
| | 2 | Connection cord assembly | RDE1002 |
| | 3 | Control cord | RDE1030 |
| | 4 | Operating instructions (English : KUC) | RRB1120 |
| | | Operating instructions (English/French : KUC/CA) | RRE1064 |
| | 5 | Pad (R) | RHA1045 |
| | 6 | Pad (F) | RHA1088 |
| | 7 | Packing case (CT-W801R) | RHG1368 |
| | | Packing case (CT-W701R) | RHG1371 |
| | 8 | Sheet | RHX – 034 |
| | 9 | Connection cord | RDE – 010 |
| NSP | 101 | Warranty card | ARY1044 |



# 4. SCHEMATIC DIAGRAMS

1. RESISTORS :
   Indicated in Ω, 1/4W, 1/6W, 1/8W, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%,(M) ; ±20% tolerance.

2. CAPACITORS :
   Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF.
   Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :
   ⌐¬ ; DC voltage (V) in stop mode.
   ←mA ; DC current in stop mode.

4. OTHERS :
   ➡ ; Signal route.
   ⊘ ; Adjusting point
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

## CT-W801R and CT-W851R

5. SWITCHES (The underlined indicates the switch position)

MAIN UNIT
S1201 : POWER SW ON – OFF

OPERATE 1 UNIT
S1301 : FWD
S1302 : REV
S1303 : STOP
S1305 : FF
S1306 : REW

OPERATE 2 UNIT
S1401 : FWD
S1402 : REV
S1403 : STOP
S1406 : REV

DISPLAY UNIT
S1501 : 1 – REC
S1502 : 1 – PAUSE
S1503 : 1 – MUTE
S1504 : 2 – REC
S1505 : 2 – PAUSE
S1506 : 2 – MUTE
S1507 : 1 – BLE
S1508 : 2 – BLE
S1510 : CD SYNC
S1511 : RESET 1 – COUNTER
S1512 : MODE 1 – COUNTER
S1513 : RESET 2 – COUNTER
S1514 : MODE 2 – COUNTER
S1515 : X1 COPY
S1516 : X2 COPY
S1517 : PARAREC
S1518 : RELAY/SKIP
S1520 : I DOLBY B – OFF – C
S1521 : II DOLBY B – OFF – C
S1522 : CAR – NOR – HP
S1523 : TIMER REC – OFF – PLAY
S1524 : ⇄ – ⇆ – ↻

## CT-W701R

5. SWITCHES (The underlined indicates the switch position)

MAIN UNIT
S1201 : POWER SW ON – OFF

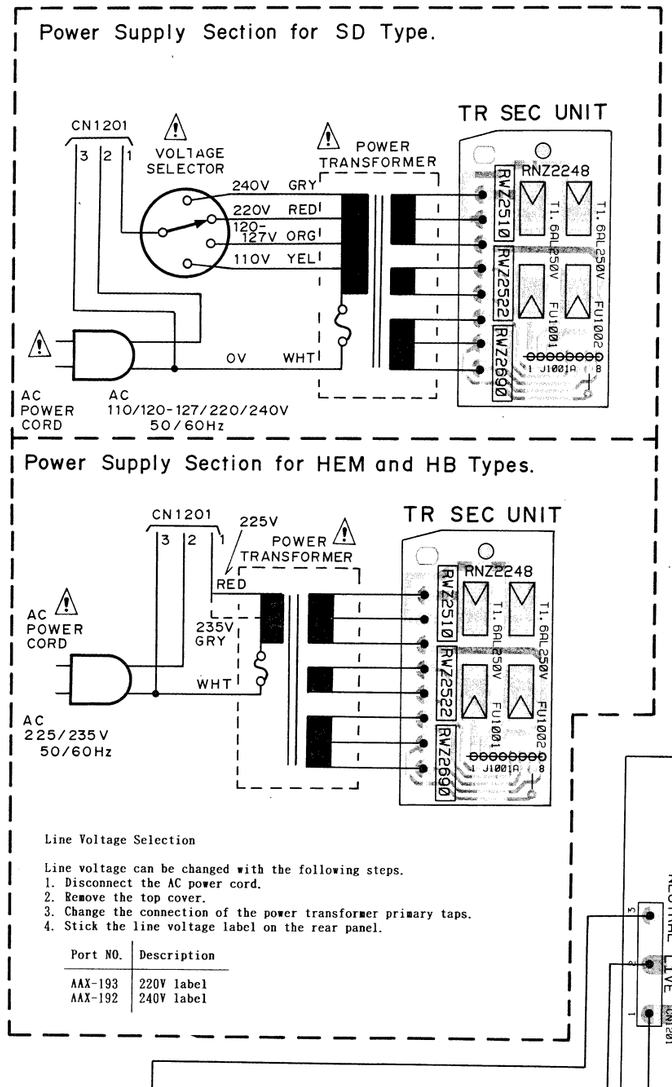
OPERATE 1 UNIT
S1301 : FWD
S1302 : REV
S1303 : STOP
S1305 : FF
S1306 : REW

OPERATE 2 UNIT
S1401 : FWD
S1402 : REV
S1403 : STOP
S1406 : REV

DISPLAY UNIT
S1501 : 1 – REC
S1502 : 1 – PAUSE
S1503 : 1 – MUTE
S1504 : 2 – REC
S1505 : 2 – PAUSE
S1506 : 2 – MUTE
S1507 : 1 – BLE
S1508 : 2 – BLE
S1510 : CD SYNC
S1511 : RESET 1 – COUNTER
S1512 : MODE 1 – COUNTER
S1513 : RESET 2 – COUNTER
S1514 : MODE 2 – COUNTER
S1515 : X1 COPY
S1516 : X2 COPY
S1518 : RELAY/SKIP
S1520 : I DOLBY B – OFF – C
S1521 : II DOLBY B – OFF – C
S1522 : CAR – NOR – HP
S1523 : TIMER REC – OFF – PLAY
S1524 : ⇄ – ⇆ – ↻

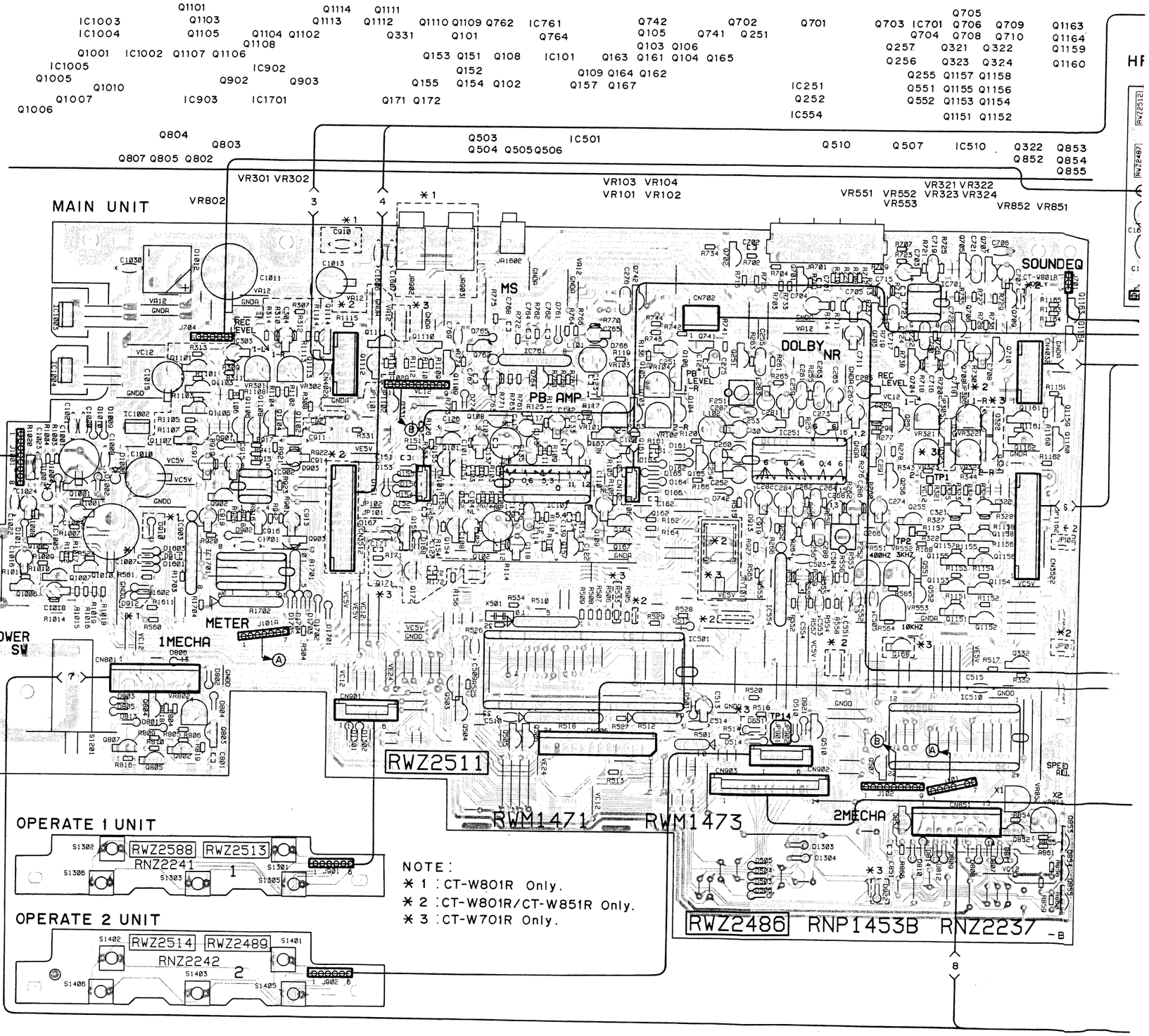
# 5. PCB CONNECTIONS DIAGRAM

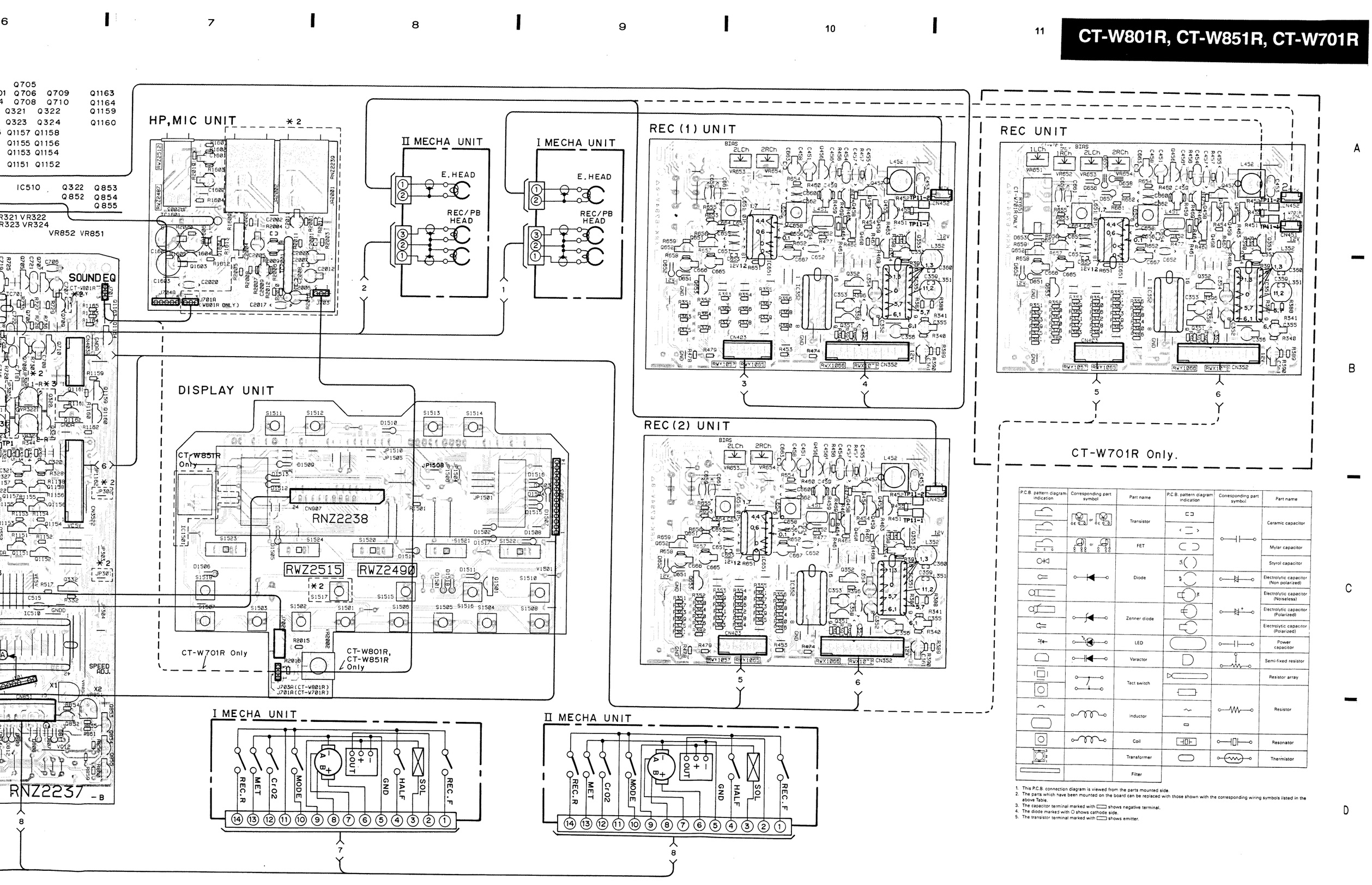
- View from component side







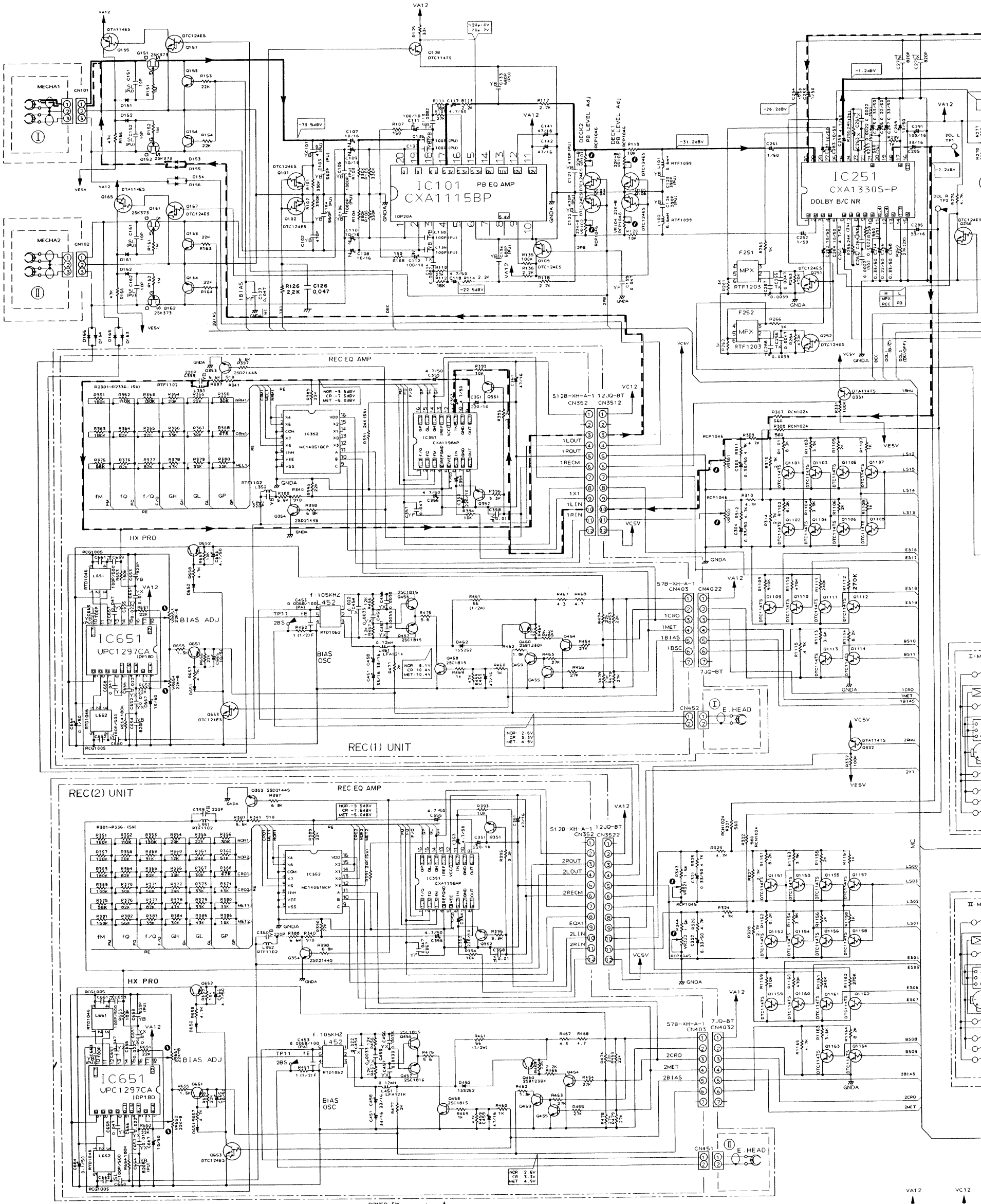





| P.C.B. pattern diagram indication | Corresponding part symbol | Part name | P.C.B. pattern diagram indication | Corresponding part symbol | Part name |
|---|---|---|---|---|---|
| | | Transistor | | | Ceramic capacitor |
| | | FET | | | Mylar capacitor |
| | | Diode | | | Styrol capacitor |
| | | | | | Electrolytic capacitor (Non polarized) |
| | | | | | Electrolytic capacitor (Noiseless) |
| | | Zenner diode | | | Electrolytic capacitor (Polarized) |
| | | | | | Electrolytic capacitor (Polarized) |
| | | LED | | | Power capacitor |
| | | Varactor | | | Semi-fixed resistor |
| | | Tact switch | | | Resistor array |
| | | | | | Resistor |
| | | Inductor | | | |
| | | Coil | | | Resonator |
| | | Transformer | | | Thermistor |
| | | Filter | | | |

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.

# CT-W801R AND CT-W851R



| ✱1 | KUC,KUC/CA |
|---|---|
| R719,R720 | 3.3K |

IC101 PB EQ AMP
CXA1115BP

IC251
CXA1330S-P
DOLBY B/C NR

REC EQ AMP

REC EQ AMP

REC(1) UNIT

BIAS OSC

BIAS OSC

CPM SPEED CONTROL

CPM DRIVER

SOL ON/OFF DRIVER

CPM SPEED CONTROL

CPM DRIVER

SOL ON/OFF DRIVER

SYSTEM CONTROL
IC501
PD4381A

RESET

400Hz L.P.F.

400Hz LEVEL ADJ.

3kHz LEVEL ADJ.

10kHz LEVEL ADJ.

10kHz L.P.F.

3kHz L.P.F.

POWER TRANSFORMER
RTT1165

TR SEC UNIT

KUC,KUC/CA
AC120V 60HZ
LIVE
NEUTRAL
RDG1009

FU1001, FU1002
T1.6AL250V HEM, HB, SD
1.5A/125V KUC

NOTE: If the parts are not ic
the followings are us
NPN 2SC3311A PNP

| ✱1 | KUC,KUC/CA | HEM,HB,SD |
|---|---|---|
| R719,R720 | 3.3K | 2.2K |

SOUND EQ

HP, MIC UNIT

MIC AMP

DISPLAY UNIT (2/2)

H. PHONE AMP

400Hz L.P.F.

MS

METER AMP

MAIN UNIT

CPM SPEED CONTROL

SYSTEM CONTROL

SIGNAL LEVEL DETECT

CPM DRIVER

SOL ON/OFF DRIVER

RESET

CD SYNC.

OPERATE1 UNIT

OPERATE2 UNIT

DISPLAY UNIT (1/2)

KUC,KUC/CA ONLY

CT-W851R ONLY

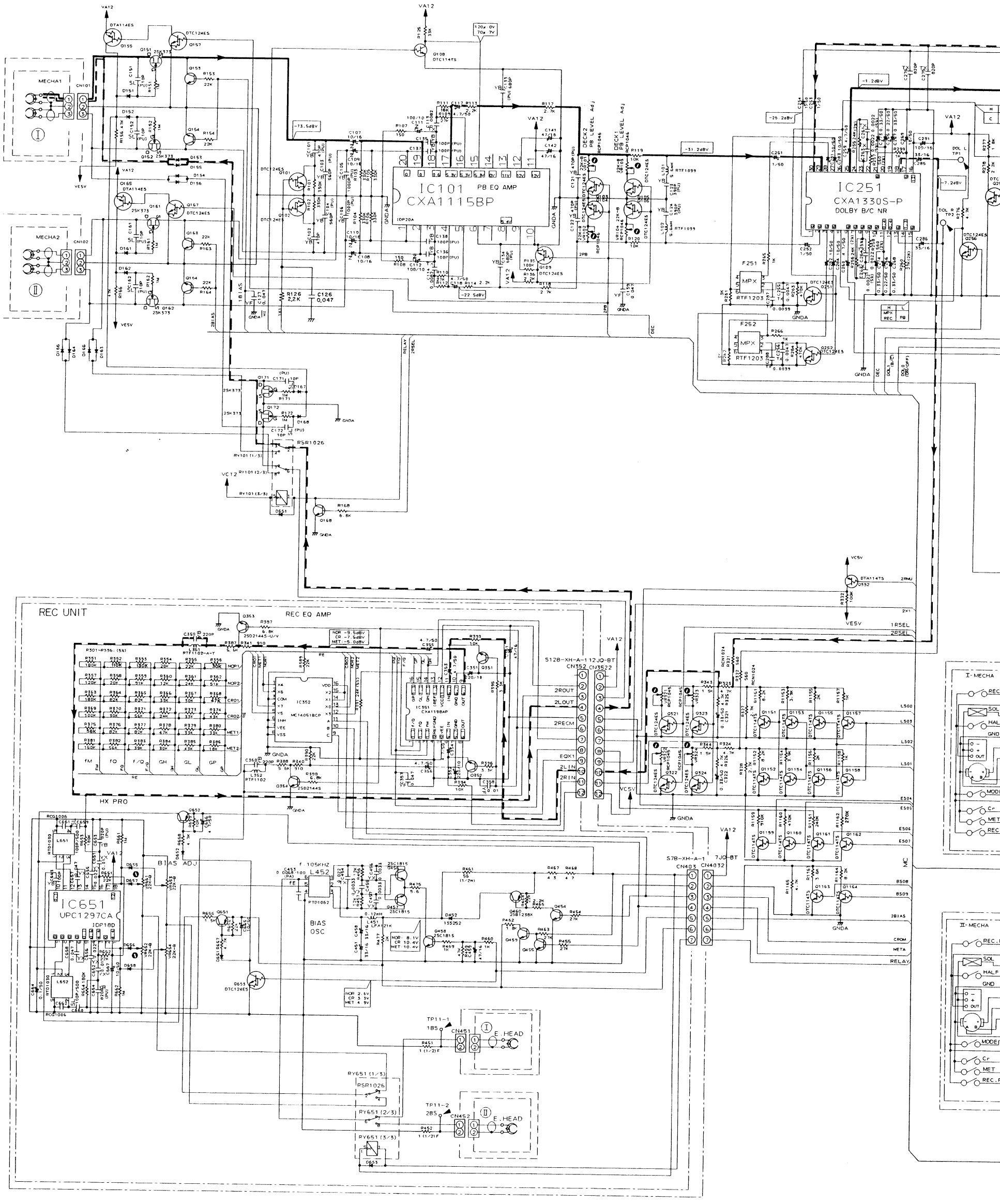
V1501 RAW1105 KUC,KUC/CA,SD RAW1107 HEM,HB

: PLAYBACK SIGNAL
: RECORDING SIGNAL
► : MEASURMENT POINT

NOTE: If the parts are not identified in the diagram the followings are used.

NPN 2SC3311A PNP 2SA1309A 1SS254

)1R


REC UNIT
REC EQ AMP
HX PRO
IC101 PB EQ AMP CXA1115BP
IC251 CXA1330S-P DOLBY B/C NR
IC651 UPC1297CA
IC352 MC140518CP
IC351 CXA1198AP
L452 PTD1062
BIAS ADJ
BIAS OSC
MECHA1
MECHA2
E.HEAD
RSR1026
S128-XH-A-112JQ-BT CN352 CN3522
S7B-XH-A-1 7JQ-BT CN4032 CN403
F251 MPX RTF1203
F252 MPX RTF1203
I-MECHA
II-MECHA
POWER SW
HEM,HB
AC220~230/230~240V
50/60Hz
KUC,KUC/CA
AC120V 60HZ
LIVE
NEUTRAL
PDG1009
POWER TRANSFORMER RTT1165
TR SEC UNIT
FU1001, FU1002
1.5A/125V KUC, KUC/CA
T1.6AL250V HEM, HB

| | KUC<br>KUC/CA | HEM, HB |
|---|---|---|
| R719, R720 | 3.3K | 2.2K |

IC101 PB EQ AMP
CXA1115BP

IC251
CXA1330S-P
DOLBY B/C NR

IC351
CXA1198AP

IC761 (1/2) BA15218N
IC761 (2/2) BA15218N
IC554 (1/2) BA15218N
IC554 (2/2)
[IC701 (1/2) BA15218
[IC701 (2/2)

JA701 (1/4) RKB-020
JA701 (3/4)
JA701 (2/4) RKB1003
JA701 (4/4) RKB1003

IC501 PD4581A
IC510 LC7570

SOUND EQ
400Hz L.P.F.
400Hz LEVEL ADJ.
3kHz LEVEL ADJ.
3kHz L.P.F.
10kHz LEVEL ADJ.
10kHz L.P.F.
CPM SPEED CONTROL
CPM DRIVER
SOL ON/OFF DRIVER
SYSTEM CONTROL
CD SYNC
RESET
SP JACK
DECK2 PB LEVEL Adj
DECK1 PB LEVEL Adj
I-MECHA
II-MECHA
E.HEAD
TR SEC UNIT
POWER TRANSFORMER
RTT1165

NOTE: If the parts are not identified in the diagram, the followings are used.
NPN 2SC3311A PNP 2SA1309A 1SS

FU1001, FU1002
1.5A/125V KUC, KUC/CA
T1.6AL250V HEM, HB

| ※1 | KUC<br>KUC/CA | HEM, HB |
|---|---|---|
| R719,R720 | 3.3K | 2.2K |

SOUND EQ

DISPLAY UNIT (2/2)

H.PHONE AMP

H.PHONE UNIT

400Hz L.P.F.

METER AMP

MAIN UNIT

CPM SPEED CONTROL

SYSTEM CONTROL

SIGNAL LEVEL DETECT

CD SYNC

RESET

SR

V1501

RAW1105 KUC, KUC/CA

RAW1107 HEM, HB

DISPLAY UNIT (1/2)

S1501~1509 RSG1034

OPERATE1 UNIT

S1301~1305 RSG1033

OPERATE2 UNIT

S1401~1405 RSG1033

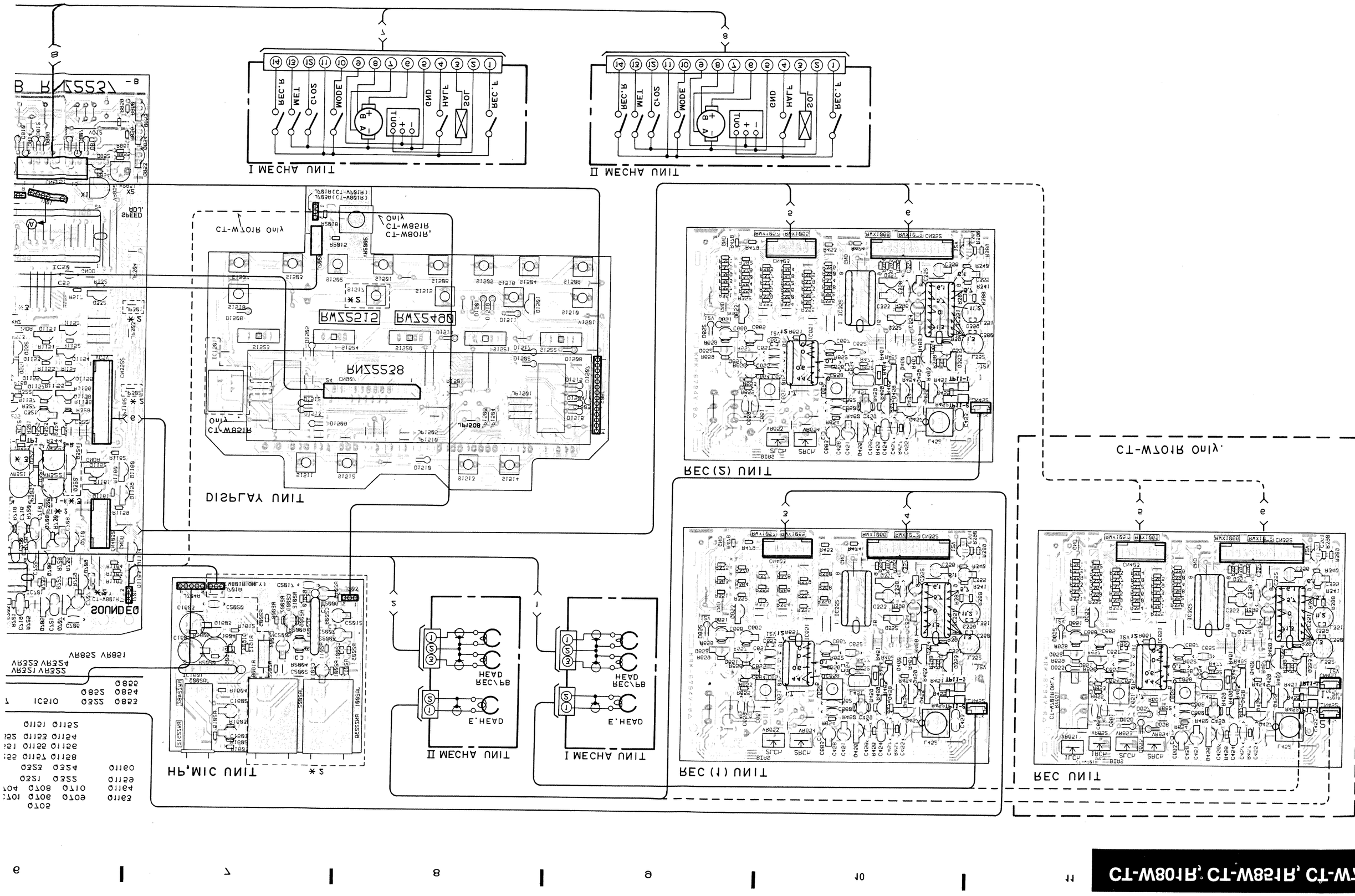
: PLAYBACK SIGNAL

: RECORDING SIGNAL

► : MEASUREMENT POINT

NOTE: If the parts are not identified in the diagram the followings are used.

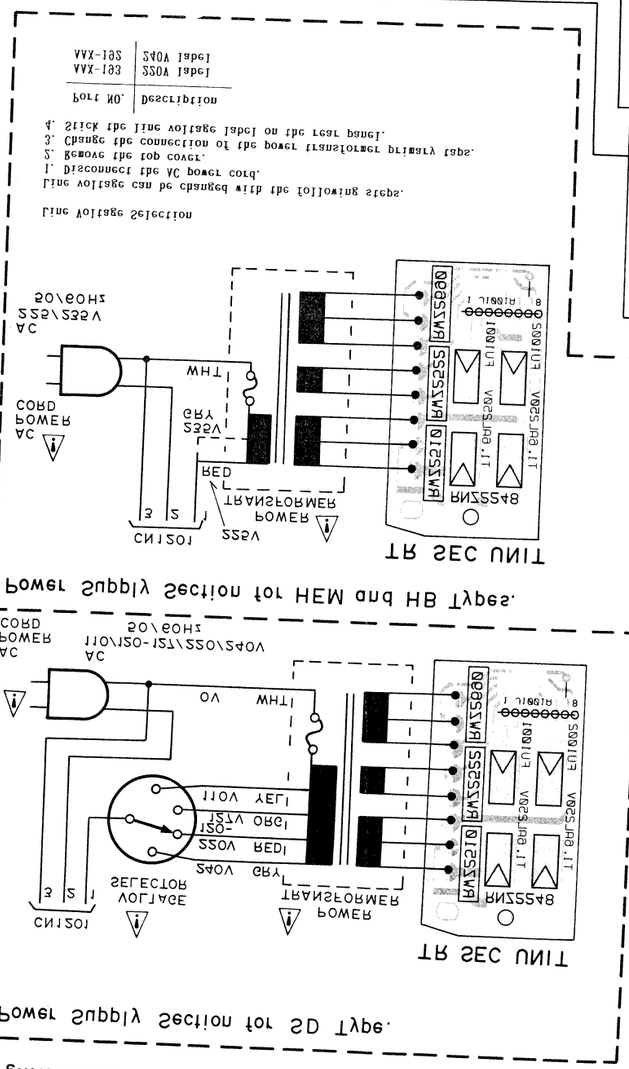
NPN 2SC3311A PNP 2SA1309A 1SS254




CT-W80R, CT-W82R, CT-W70R

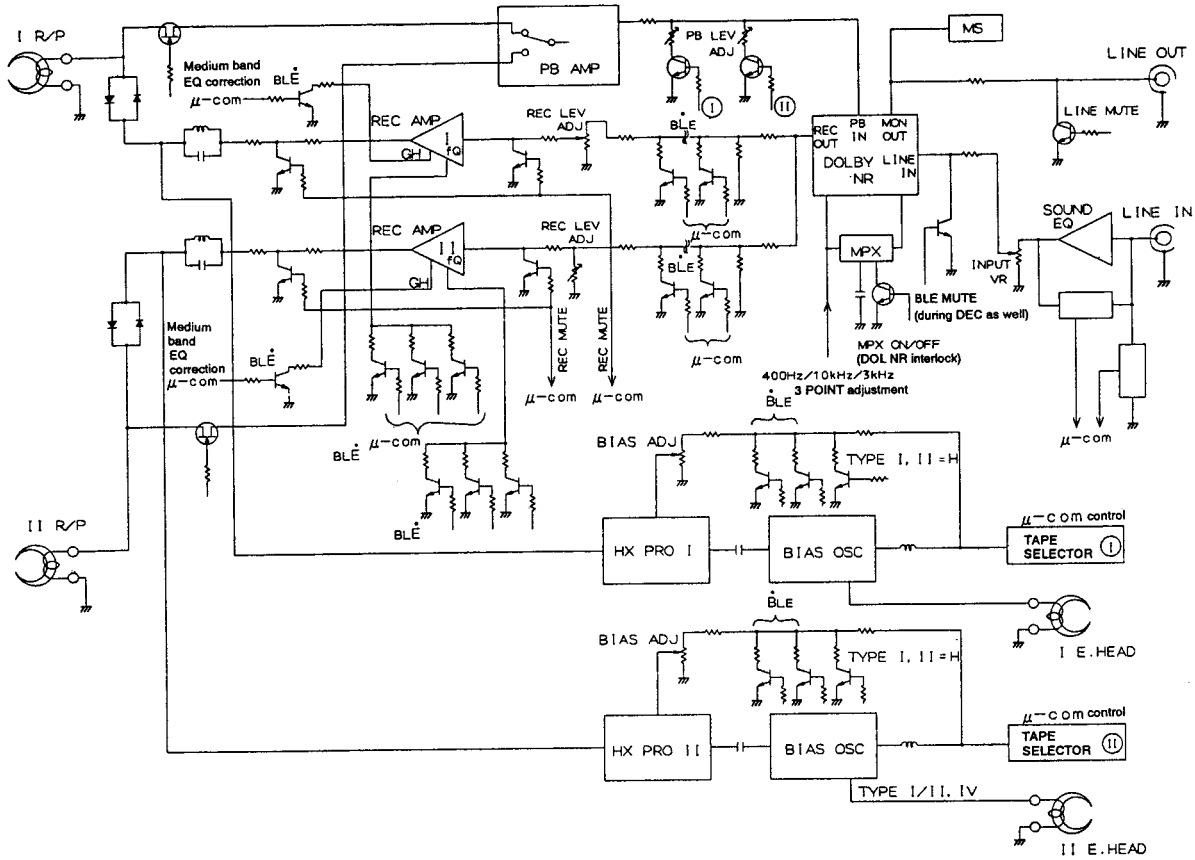
# 2. PCB CONNECTIONS DIAGRAM

• View from soldering side

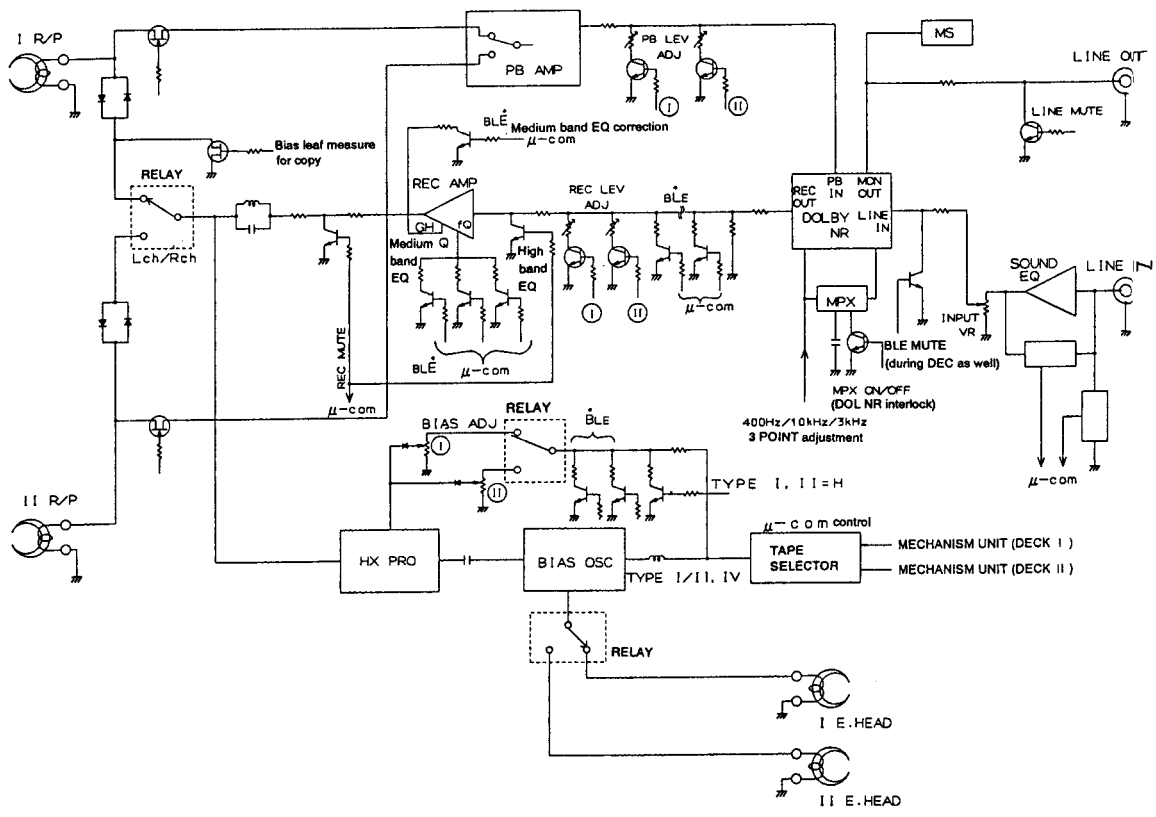

Power supply section for SD Type.
Power supply section for HEM and HB Types.
Fine voltage can be changed with the following steps.
1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the connection of the power transformer primary tabs.
4. Check the line voltage input on the test panel.
Fine voltage selection
Port NO. | Description
CN4-1&3 | VOSS Input
CN4-2 | VOA5 Input
TRANSFORMER
POWER
SELECTOR
VOLTAGE
TR SEC UNIT
MAIN UNIT
OPERATE S UNIT
OPERATE I UNIT
NOTE:
* 1 : CT-W80IR only.
* 2 : CT-W80W\CT-W82IR only.
* 3 : CT-W70IR only.

# 6. BLOCK DIAGRAM

## CT-W801R, CT-W851R




## CT-W701R



# 7. PCB PARTS LIST

## • CT-W801R/KUC, KUC/CA and CT-W701R/KUC, KUC/CA types

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%)

560 Ω → 56 × $10^1$ → 561 ····· RD1/4PS 5 6 1 J
47k Ω → 47 × $10^3$ → 473 ····· RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ····· RN2H 0 R 5 K
1 Ω → 010 ····· RS1P 0 1 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × $10^1$ → 5621 ····· RN1/4SR 5 6 2 1 F

NOTE : (*1) : CT-W801R/KUC, KUC/CA (*2) : CT-W701R/KUC, KUC/CA

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **LIST OF ASSEMBLIES** | | | |
| ● (*1) | | | |
| NSP | | REC(1)UNIT | RWX1065 |
| NSP | | REC(2)UNIT | RWX1066 |
| ⊙ | | MOTHER UNIT | RWM1471 |
| NSP | | ├MAIN UNIT | RWZ2486 |
| NSP | | ├HP, MIC UNIT | RWZ2487 |
| NSP | | ├OPERATE SW(1) UNIT | RWZ2488 |
| NSP | | ├OPERATE SW(2) UNIT | RWZ2489 |
| NSP | | ├DISPLAY UNIT | RWZ2490 |
| NSP | | └TR SEC UNIT | RWZ2491 |
| ● (*2) | | | |
| NSP | | REC UNIT | RWX1057 |
| ⊙ | | MOTHER UNIT | RWM1473 |
| NSP | | ├MAIN UNIT | RWZ2511 |
| NSP | | ├HP UNIT | RWZ2512 |
| NSP | | ├OPERATE SW(1) UNIT | RWZ2513 |
| NSP | | ├OPERATE SW(2) UNIT | RWZ2514 |
| NSP | | ├DISPLAY UNIT | RWZ2515 |
| NSP | | └TR SEC UNIT | RWZ2516 |
| **REC (1) UNIT** | | | |
| **SEMICONDUCTORS** | | | |
| | IC351 | REC EQUALIZER IC | CXA1198AP |
| | IC352 | | MC14051BCP |
| | IC651 | DOLBY HX PRO IC | UPC1297CA |
| | Q351, 352 | TRANSISTOR | 2SC3311A |
| | Q353, 354 | TRANSISTOR | 2SD2144S |
| | Q454, 455 | TRANSISTOR | 2SC3311A |
| | Q456-458 | TRANSISTOR | 2SC1815 |
| | Q459 | TRANSISTOR | 2SC3311A |
| | Q460 | TRANSISTOR | 2SB1238X |
| | Q651, 652 | TRANSISTOR | 2SA1309A |
| | Q653 | TRANSISTOR | DTC124ES |
| | D452 | DIODE | 1SS252 |
| | D651, 652 | DIODE | 1SS254 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **COILS/TRANSFORMERS** | | | |
| | L351, 352 | COIL | RTF1102 |
| | L451 | RADIAL INDUCTOR | LFA121K |
| | L452 | COIL | RTD1062 |
| | L651, 652 | COIL | RTD1046 |
| **CAPACITORS** | | | |
| | C351, 352 | ELECT. CAPACITOR | CEAS221M10 |
| | C353-356 | ELECT. CAPACITOR | CEAS4R7M50 |
| | C357 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C358 | CERAMIC CAPACITOR | CKCYF103Z50 |
| | C359, 360 | AXIAL CAPACITOR | CKPUYB221K50 |
| | C361 | ELECT. CAPACITOR | CEAS470M16 |
| | C451 | ELECT. CAPACITOR | CEAS330M16 |
| | C453 | CAPACITOR | CQPA682J100 |
| | C454 | AUDIO FILM CAPACITOR | CFTXA223J50 |
| | C455-457 | CERAMIC CAPACITOR | CGCYX332K25 |
| | C458 | ELECT. CAPACITOR | CEAS330M16 |
| | C459 | ELECT. CAPACITOR | CEAS470M16 |
| | C651, 652 | CERAMIC CAPACITOR | CGCYX103K25 |
| | C653, 654 | AXIAL CAPACITOR | CKPUYB821K50 |
| | C655, 656 | CERAMIC CAPACITOR | CGCYX223K25 |
| | C657, 658 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C659, 660 | CERAMIC CAPACITOR | CCCSL101K500 |
| | C661, 662 | CERAMIC CAPACITOR | RCG1005 |
| | C663 | AXIAL CAPACITOR | CKPUYB101K50 |
| | C664 | ELECT. CAPACITOR | CEASR10M50 |
| | C665 | ELECT. CAPACITOR | CEAS100M50 |
| | C666 | ELECT. CAPACITOR | CEAS4R7M50 |
| | C667 | ELECT. CAPACITOR | CEAS100M50 |
| **RESISTORS** | | | |
| | R340, 341 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R351-356 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R363-368 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R375-380 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R387-391 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R393-398 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R452 | CARBONFILM RESISTOR | RD1/2LF□□□J |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | | R453-457 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R459, 460 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R461 CARBONFILM RESISTOR | RD1/2LF□□□J |
| | | R462-465 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R467-469 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R474, 475 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R477-479 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R651-659 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | VR653, 654 VR | VRTB6HS223 |
| | | **OTHERS** | |
| | | CN352 | S12B-XH-A-1 |
| | | CN403 | S7B-XH-A-1 |

## REC (2) UNIT(*1) REC UNIT(*2)

| | | | |
|---|---|---|---|
| | | **SEMICONDUCTORS** | |
| | | IC351 REC EQUALIZER IC | CXA1198AP |
| | | IC352 | MC14051BCP |
| | | IC651 DOLBY HX PRO IC | UPC1297CA |
| | | Q351, 352 TRANSISTOR | 2SC3311A |
| | | Q353, 354 TRANSISTOR | 2SD2144S |
| | | Q454, 455 TRANSISTOR | 2SC3311A |
| | | Q456-458 TRANSISTOR | 2SC1815 |
| | | Q459 TRANSISTOR | 2SC3311A |
| | | Q460 TRANSISTOR | 2SB1238X |
| | | Q651, 652 TRANSISTOR | 2SA1309A |
| | | Q653 TRANSISTOR | DTC124ES |
| | | D452 DIODE | 1SS252 |
| | | D651, 652 DIODE | 1SS254 |
| | | D653, 655-658 DIODE (*2) | 1SS254 |
| | | **COILS/TRANSFORMERS** | |
| | | L351, 352 COIL | RTF1102 |
| | | L451 RADIAL INDUCTOR | LFA121K |
| | | L452 COIL | RTD1062 |
| | | L651, 652 COIL (*1) | RTD1046 |
| | | L651, 652 COIL (*2) | RTD1030 |
| | | **RELAYS** | |
| | | RY651 RELAY (*2) | RSR1026 |
| | | **CAPACITORS** | |
| | | C351, 352 ELECT. CAPACITOR | CEAS221M10 |
| | | C353-356 ELECT. CAPACITOR | CEAS4R7M50 |
| | | C357 CERAMIC CAPACITOR | CGCYF473Z50 |
| | | C358 CERAMIC CAPACITOR | CKCYF103Z50 |
| | | C359, 360 AXIAL CAPACITOR | CKPUYB221K50 |
| | | C361 ELECT. CAPACITOR | CEAS470M16 |
| | | C451 ELECT. CAPACITOR | CEAS330M16 |
| | | C453 CAPACITOR | CQPA682J100 |
| | | C454 AUDIO FILM CAPACITOR | CFTXA223J50 |
| | | C455-457 CERAMIC CAPACITOR | CGCYX332K25 |
| | | C458 ELECT. CAPACITOR | CEAS330M16 |
| | | C459 ELECT. CAPACITOR | CEAS470M16 |
| | | C651, 652 CERAMIC CAPACITOR | CGCYX103K25 |
| | | C653, 654 AXIAL CAPACITOR | CKPUYB821K50 |
| | | C655, 656 CERAMIC CAPACITOR | CGCYX223K25 |
| | | C657, 658 CERAMIC CAPACITOR | CGCYF473Z50 |
| | | C659, 660 CERAMIC CAPACITOR | CCCSL101K500 |
| | | C661, 662 CERAMIC CAPACITOR (*1) | RCG1005 |
| | | C661, 662 CERAMIC CAPACITOR (*2) | RCG1006 |
| | | C663 AXIAL CAPACITOR | CKPUYB101K50 |
| | | C664 ELECT. CAPACITOR | CEASR10M50 |
| | | C665 ELECT. CAPACITOR | CEAS100M50 |
| | | C666 ELECT. CAPACITOR | CEAS4R7M50 |
| | | C667 ELECT. CAPACITOR | CEAS100M50 |
| | | **RESISTORS** | |
| | | R340, 341 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R351-391 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R393-398 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R451 CARBONFILM RESISTOR (*2) | RD1/2LF□□□J |
| | | R452 CARBONFILM RESISTOR | RD1/2LF□□□J |
| | | R453 CARBONFILM RESISTOR (*1) | RD1/6PM□□□J |
| | | R454-457 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R459, 460 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R461 CARBONFILM RESISTOR | RD1/2LF□□□J |
| | | R462-465 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R467-469 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R474 CARBONFILM RESISTOR (*1) | RD1/6PM□□□J |
| | | R475 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R477 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R478, 479 CARBONFILM RESISTOR (*1) | RD1/6PM□□□J |
| | | R651-659 CARBONFILM RESISTOR | RD1/6PM□□□J |
| | | R661, 662 CARBONFILM RESISTOR (*2) | RD1/6PM□□□J |
| | | VR651, 652 VR (*2) | VRTB6HS223 |
| | | VR653, 654 VR | VRTB6HS223 |
| | | **OTHERS** | |
| | | CN352 | S12B-XH-A-1 |
| | | CN403 | S7B-XH-A-1 |

## MAIN UNIT

| | | | |
|---|---|---|---|
| | | **SEMICONDUCTORS** | |
| | | IC101 PB-EQ AMP IC | CXA1115BP |
| | | IC251 DOLBY B/C IC | CXA1331S-P |
| | | IC501 MCU | PD4381 |
| | | IC510 FL STATIC DRIVER IC | LC7570 |
| | | IC554 IC | BA15218N |
| | | IC701 OP-AMP IC | BA15218 |
| | | IC761 IC | BA15218N |
| | | IC902 OP-AMP IC | BA15218 |
| | | IC903 DUAL-COMPARATOR IC | M5233L |
| ⚠ | | IC1002 REGULATOR IC | NJM78M05FA |
| ⚠ | | IC1003, 1004 REGULATOR IC | NJM7812FA |
| ⚠ | | IC1005 REGULATOR IC | NJM79L05A |
| | | IC1701 CMOS LOGIC IC | TC4050BP |
| | | Q101-106 TRANSISTOR | DTC124ES |
| | | Q108 DIGITAL TRANSISTOR | DTC114ES |
| | | Q109 TRANSISTOR | DTC124ES |
| | | Q151, 152 N-FET | 2SK373 |
| | | Q153, 154 TRANSISTOR | 2SC3311A |
| | | Q155 DIGITAL TRANSISTOR | DTA114ES |
| | | Q157 TRANSISTOR | DTC124ES |
| | | Q161, 162 N-FET | 2SK373 |
| | | Q163, 164 TRANSISTOR | 2SC3311A |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | Q165 | DIGITAL TRANSISTOR | DTA114ES |
| | Q167 | TRANSISTOR | DTC124ES |
| | Q168 | TRANSISTOR (*2) | 2SC3311A |
| | Q171, 172 | N-FET (*2) | 2SK373 |
| | Q251, 252 | TRANSISTOR | DTC124ES |
| | Q255-257 | TRANSISTOR | DTC124ES |
| | Q321-324 | TRANSISTOR (*2) | DTC124ES |
| | Q331 | DIGITAL TRANSISTOR (*1) | DTA114TS |
| | Q332 | DIGITAL TRANSISTOR | DTA114TS |
| | Q503-507 | TRANSISTOR | DTC124ES |
| | Q510 | TRANSISTOR | 2SA1309A |
| | Q551, 552 | DIGITAL TRANSISTOR | DTC114TS |
| | Q553 | N-FET | 2SK246 |
| | Q701, 702 | TRANSISTOR | 2SD2144S |
| | Q703, 704 | DIGITAL TRANSISTOR | DTC114TS |
| | Q705-708 | TRANSISTOR | 2SD2144S |
| | Q709, 710 | DIGITAL TRANSISTOR | DTC114TS |
| | Q741, 742 | TRANSISTOR | 2SD2144S |
| | Q762 | DIGITAL TRANSISTOR | DTA114TS |
| | Q764 | TRANSISTOR | DTC124ES |
| | Q802 | TRANSISTOR | 2SA1309A |
| | Q803 | TRANSISTOR | DTC124ES |
| | Q804 | TRANSISTOR | 2SB1238X |
| | Q805 | TRANSISTOR | DTC124ES |
| | Q807 | TRANSISTOR | 2SD1858X |
| | Q852 | TRANSISTOR | 2SA1309A |
| | Q853 | TRANSISTOR | DTC124ES |
| | Q854 | TRANSISTOR | 2SB1238X |
| | Q855 | TRANSISTOR | DTC124ES |
| | Q857 | TRANSISTOR | 2SD1858X |
| | Q902, 903 | DIGITAL TRANSISTOR | DTC114TS |
| ⚠ | Q1001 | TRANSISTOR | 2SA1283 |
| | Q1005 | TRANSISTOR | 2SA1309A |
| | Q1006, 1007 | TRANSISTOR | 2SC3311A |
| | Q1010 | TRANSISTOR | 2SA1309A |
| | Q1101-1114 | DIGITAL TRANSISTOR (*1) | DTC114TS |
| | Q1151-1164 | DIGITAL TRANSISTOR | DTC114TS |
| | D151-156 | DIODE | 1SS254 |
| | D161-166 | DIODE | 1SS254 |
| | D167, 168, 651, 922 | DIODE (*2) | 1SS254 |
| | D501 | ZENER DIODE | MTZJ9.1A |
| | D503-506 | DIODE | 1SS254 |
| | D510 | DIODE | 1SS254 |
| | D514, 515 | DIODE | 1SS254 |
| | D742 | DIODE | 1SS254 |
| | D761 | DIODE | 1SS254 |
| | D765 | ZENER DIODE | MTZJ3.9B |
| | D766 | DIODE | 1SS254 |
| | D774 | DIODE | 1SS254 |
| | D801 | DIODE | 1SS252 |
| | D802-811 | DIODE | 1SS254 |
| | D812 | DIODE | 1SS252 |
| | D813, 814 | DIODE | 1SS254 |
| | D901-903 | DIODE | 1SS254 |
| | D910-913 | DIODE | 1SS254 |
| | D921 | DIODE | 1SS254 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | D1001 | DIODE | 1SR35-100AVL |
| ⚠ | D1002 | ZENER DIODE | MTZJ24AA |
| | D1004 | ZENER DIODE | MTZJ3.3B |
| ⚠ | D1006 | DIODE | 1SR35-100AVL |
| ⚠ | D1009-1011 | DIODE | 1SS254 |
| ⚠ | D1012 | | S2VB20 |
| | D1301-1304 | DIODE | 1SS254 |
| | D1601-1603 | DIODE | 1SS254 |
| | D1701-1705 | DIODE | 1SS254 |

**COILS/TRANSFORMERS**

| | | | |
|---|---|---|---|
| | L101, 102 | COIL | RTF1099 |
| | F251, 252 | FILTER | RTF1203 |

**RELAYS**

| | | | |
|---|---|---|---|
| | RY101 | RELAY (*2) | RSR1026 |

**SWITCHES**

| | | | |
|---|---|---|---|
| ⚠ | S1201 | SWITCH | RSA-063 |

**CAPACITORS**

| | | | |
|---|---|---|---|
| | C101, 102 | AXIAL CAPACITOR | CKPUYB471K50 |
| | C103, 104 | AXIAL CAPACITOR | CKPUYB561K50 |
| | C105, 106 | CERAMIC CAPACITOR | CKPUYB102K50 |
| | C107-110 | ELECT. CAPACITOR | CEANL100M16 |
| | C111, 112 | ELECT. CAPACITOR | CEANL101M10 |
| | C113, 114 | AUDIO FILM CAPACITOR | CFTXA822J50 |
| | C117, 118 | ELECT. CAPACITOR | CEAS4R7M50 |
| | C121, 122 | AXIAL CAPACITOR | CKPUYB471K50 |
| | C123, 124 | AXIAL CAPACITOR | CKPUYB391K50 |
| | C126, 127 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C133, 134 | AXIAL CAPACITOR | CKPUYB681K50 |
| | C135-138 | AXIAL CAPACITOR | CKPUYB101K50 |
| | C139 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C141, 142 | ELECT. CAPACITOR | CEAS470M16 |
| | C151, 152 | AXIAL CAPACITOR | CCPUSL100J50 |
| | C161, 162 | AXIAL CAPACITOR | CCPUSL100J50 |
| | C171, 172 | AXIAL CAPACITOR (*2) | CCPUSL100J50 |
| | C251-254 | ELECT. CAPACITOR | CEAS010M50 |
| | C255, 256 | AUDIO FILM CAPACITOR | CFTXA472J50 |
| | C259, 260 | ELECT. CAPACITOR | CEAS4R7M50 |
| | C261-264 | AUDIO FILM CAPACITOR | CFTXA222J50 |
| | C265, 266 | ELECT. CAPACITOR | CEASR22M50 |
| | C267, 268 | ELECT. CAPACITOR | CEASR33M50 |
| | C269 | ELECT. CAPACITOR | CEAS100M50 |
| | C273, 274 | ELECT. CAPACITOR | CEASR33M50 |
| | C275, 276 | | CFTXA821J50 |
| | C281-284 | ELECT. CAPACITOR | CEAS100M50 |
| | C285, 286 | ELECT. CAPACITOR | CEAS330M16 |
| | C287, 288 | AUDIO FILM CAPACITOR | CFTXA392J50 |
| | C291 | ELECT. CAPACITOR | CEAS101M16 |
| | C303, 304 | ELECT. CAPACITOR (*1) | CEASR33M50 |
| | C321, 322 | ELECT. CAPACITOR | CEASR33M50 |
| | C503 | CERAMIC CAPACITOR | CGCYX104K25 |
| | C504 | CERAMIC CAPACITOR | CGCYX123K25 |
| | C505 | CERAMIC CAPACITOR | CGCYX223K25 |
| | C509, 510 | CERAMIC CAPACITOR | CKCYF103Z50 |
| | C513 | ELECT. CAPACITOR | CEAS470M16 |
| | C514, 515 | CERAMIC CAPACITOR | CKCYF103Z50 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C551 | CERAMIC CAPACITOR | CGCYX823K25 |
| | C552 | CERAMIC CAPACITOR | CGCYX223K25 |
| | C553 | CERAMIC CAPACITOR | CGCYX472K25 |
| | C554 | CERAMIC CAPACITOR | CGCYX103K25 |
| | C555 | ELECT. CAPACITOR | CEAS010M50 |
| | C701, 702 | AXIAL CAPACITOR | CKPUYB101K50 |
| | C703, 704 | ELECT. CAPACITOR | CEAS010M50 |
| | C705 | ELECT. CAPACITOR | CEAS470M16 |
| | C706 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C707, 708 | ELECT. CAPACITOR | CEAS100M50 |
| | C711 | ELECT. CAPACITOR | CEAS470M16 |
| | C715, 716 | ELECT. CAPACITOR | CEASR47M50 |
| | C717, 718 | AUDIO FILM CAPACITOR | CFTXA822J50 |
| | C719, 720 | AUDIO FILM CAPACITOR | CFTXA563J50 |
| | C721, 722 | AUDIO FILM CAPACITOR | CFTXA823J50 |
| | C723, 724 | AXIAL CAPACITOR | CKPUYB101K50 |
| | C762 | AXIAL CAPACITOR | CKPUYB101K50 |
| | C763 | ELECT. CAPACITOR | CEASR47M50 |
| | C764 | AXIAL CAPACITOR | CKPUYB271K50 |
| | C765 | ELECT. CAPACITOR | CEASR22M50 |
| | C767, 768 | CERAMIC CAPACITOR | CGCYX822K25 |
| | C769 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C801 | AXIAL CAPACITOR | CKPUYB681K50 |
| | C851 | AXIAL CAPACITOR | CKPUYB681K50 |
| | C910 | CERAMIC CAPACITOR | CKCYF103Z50 |
| | C911 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C913 | ELECT. CAPACITOR | CEAS331M6R3 |
| | C914 | ELECT. CAPACITOR | CEAS330M35 |
| | C915, 916 | ELECT. CAPACITOR | CEAS100M50 |
| | C917, 918 | ELECT. CAPACITOR | CEASR47M50 |
| | C919 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C921 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C1001 | ELECT. CAPACITOR | CEAS221M50 |
| | C1004 | ELECT. CAPACITOR | CEAS330M35 |
| | C1007 | ELECT. CAPACITOR | CEAS472M16 |
| | C1008 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C1010 | ELECT. CAPACITOR | CEAS102M10 |
| | C1011 | ELECT. CAPACITOR | CEAS472M25 |
| | C1013 | ELECT. CAPACITOR | CEAS331M16 |
| | C1015 | ELECT. CAPACITOR | CEAS331M16 |
| | C1016 | ELECT. CAPACITOR | CEAS100M50 |
| | C1018 | ELECT. CAPACITOR | CEAS220M50 |
| | C1020-1023 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C1024 | ELECT. CAPACITOR | CEAS470M16 |
| | C1030 | CERAMIC CAPACITOR | CGCYF473Z50 |
| ⚠ | C1203 | CAPACITOR (0.01/400) | RCG-009 |
| | C1606 | CERAMIC CAPACITOR | CKCYF103Z50 |
| | C1607 | CERAMIC CAPACITOR | CGCYF473Z50 |
| | C1701 | CERAMIC CAPACITOR | CGCYF473Z50 |

**RESISTORS**

| | | | |
|---|---|---|---|
| | R101-114 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R117-120 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R125, 126 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R135, 136 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R151-154 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R156 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R161-164 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R166 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R168 | CARBONFILM RESISTOR (*2) | RD1/6PM□□□J |
| | R171, 172 | CARBONFILM RESISTOR (*2) | RD1/6PM□□□J |
| | R255-258 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R260-266 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R276-278 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R299 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R307-314 | CARBONFILM RESISTOR (*1) | RD1/6PM□□□J |
| | R321, 322 | | RCN1024 |
| | R323-328 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R331 | CARBONFILM RESISTOR (*1) | RD1/6PM□□□J |
| | R332 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R343, 344 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R501 | RESISTOR ARRAY (22K) | RA4T□□□J |
| | R504-509 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R510 | RESISTOR ARRAY (*1) | RA5T□□□J |
| | R510 | RESISTOR ARRAY (*2) | RA9T□□□J |
| | R512 | RESISTOR ARRAY (68K) | RA6T□□□J |
| | R514-517 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R518 | RESISTOR ARRAY | RA11T□□□J |
| | R520 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R524-529 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R533 | CARBONFILM RESISTOR (*2) | RD1/6PM□□□J |
| | R534 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R551-561 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R563-565 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R701-704 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R707-730 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R733-738 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R741-744 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R760-764 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R766-768 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R770-775 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R804 | | RCN053 |
| | R805 | METALFILM RESISTOR | RN1/6PQ□□□□F |
| | R806 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R809, 810 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R816 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R818, 819 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R854 | | RCN053 |
| | R855 | METALFILM RESISTOR | RN1/6PQ□□□□F |
| | R856 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R859-861 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R866 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R901 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R915-923 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R926, 927 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R941, 942 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R1001 | CARBONFILM RESISTOR | RD1/2LF□□□J |
| | R1003, 1004 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R1007-1012 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R1014-1019 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| ⚠ | R1020 | FUSLIBLE RESISTOR | RFA/4L□□□J |
| | R1101-1115 | CARBONFILM RESISTOR(*1) | RD1/6PM□□□J |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | R1151-1165 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R1611 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R1701 | RESISTOR ARRAY | RA5T□□□J |
| | R1702 | LADDER RESISTOR | RCX1020 |
| | R1703, 1704 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | VR101-104 | VR | RCP1046 |
| | VR301, 302 | VR (*1) | RCP1046 |
| | VR321, 322 | VR | RCP1045 |
| | VR323, 324 | VR (*2) | RCP1045 |
| | VR551-553 | VR | RCP1046 |
| | VR802 | VR | RCP1090 |
| | VR851 | VR | RCP1045 |
| | VR852 | VR | RCP1090 |
| **OTHERS** | | | |
| | CN801 | CONNECTOR(14P) | KPE14 |
| | CN851 | CONNECTOR(14P) | KPE14 |
| | CN906 | CONNECTOR | HLEM24S-1 |
| | CN3512 | | 12JQ-BT |
| | CN3522 | | 12JQ-BT |
| | CN4022 | | 7JQ-BT |
| | CN4032 | | 7JQ-BT |
| | JA701 | JACK | RKB-020 |
| | JA902, 903 | JACK | RKN1004 |
| | JA1602 | JACK | PKN1005 |
| | X501 | CERAMIC RESONATOR | VSS1014 |

## HP, MIC UNIT (*1) HP UNIT (*2)

| | | | |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC1601 | IC | BA15218N |
| | IC2001 | IC (*1) | BA15218N |
| | Q1603, 1604 | TRANSISTOR | 2SD2144S |
| **CAPACITORS** | | | |
| | C1601, 1602 | ELECT. CAPACITOR | CEASR22M50 |
| | C1603, 1604 | ELECT. CAPACITOR | CEAS101M16 |
| | C1605 | ELECT. CAPACITOR | CEAS331M16 |
| | C2001, 2002 | AXIAL CAPACITOR (*1) | CKPUYB681K50 |
| | C2003, 2004 | ELECT. CAPACITOR (*1) | CEAS010M50 |
| | C2005, 2006 | ELECT. CAPACITOR (*1) | CEAS100M50 |
| | C2007, 2008 | AXIAL CAPACITOR (*1) | CKPUYB101K50 |
| | C2009 | ELECT. CAPACITOR (*1) | CEAS470M16 |
| | C2011, 2012 | ELECT. CAPACITOR (*1) | CEAS010M50 |
| | C2017 | CERAMIC CAPACITOR (*1) | CGCYF473Z50 |
| | C2020 | CERAMIC CAPACITOR | CGCYF473Z50 |
| **RESISTORS** | | | |
| | R1601-1606 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R1609 | METAL OXIDE RESISTOR | RS2LMF□□□J |
| | R1612, 1613 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R2001-2012 | CARBONFILM RESISTOR(*1) | RD1/6PM□□□J |
| | R2017, 2018 | CARBONFILM RESISTOR(*1) | RD1/6PM□□□J |
| | R2019, 2020 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| **OTHERS** | | | |
| | JA2001, 2002 | JACK (*1) | RKN1003 |
| | JA2003 | JACK | RKN1002 |

| Mark | No. | Description | Part No. |
|---|---|---|---|

## OPERATE SW(1) UNIT

| | | | |
|---|---|---|---|
| **SWITCHES** | | | |
| | S1301-1303 | SWITCH | RSG1033 |
| | S1305, 1306 | SWITCH | RSG1033 |

## OPERATE SW(2) UNIT

| | | | |
|---|---|---|---|
| **SWITCHES** | | | |
| | S1401-1403 | SWITCH | RSG1033 |
| | S1405, 1406 | SWITCH | RSG1033 |

## DISPLAY UNIT

| | | | |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | Q1501 | DIGITAL TRANSISTOR | DTA114TS |
| | D1501-1518 | DIODE | 1SS254 |
| **SWITCHES** | | | |
| | S1501-1508 | SWITCH | RSG1034 |
| | S1510-1516 | SWITCH | RSG1034 |
| | S1517 | SWITCH (*1) | RSG1034 |
| | S1518 | SWITCH | RSG1034 |
| | S1520-1524 | SWITCH | RSH1014 |
| **RESISTORS** | | | |
| | R1501 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | R2015, 2016 | CARBONFILM RESISTOR | RD1/6PM□□□J |
| | VR2002 | VARIABLE RESISTOR | RCV1086 |
| **OTHERS** | | | |
| | CN907 | CONNECTOR 24P | 52492-2420 |
| | V1501 | | RAW1105 |

## TR SEC UNIT

There is no supply part in this unit.

# 8. ADJUSTMENTS

## 8.1 MECHANICAL ADJUSTMENT

### 8.1.1 Door Damping Check and Adjustment

Set the door spring of DECK 1 side to position (A) as shown in Fig. 8-1. Then, erect the front panel assembly vertically.
Open the doors of DECK 1 and DECK 2 at the same time. At this point, confirm that the difference between opening degree of both doors is within 15mm when one side of the door is opened completely. When this standard is not satisfied, change the door spring installation position of Deck 1 and perform the adjustment as follows:

- When the opening action of the door of DECK 1 is later than that of DECK 2: Change the door spring of DECK 2 from A to B.
- When the opening action of the door of DECK 1 is faster than that of DECK 2: Change the door spring of DECK 1 from A to B.

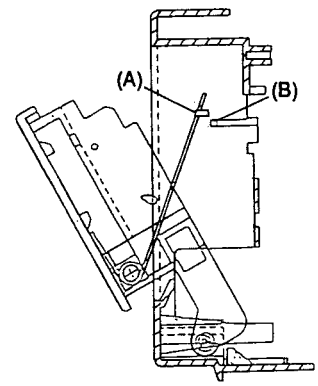



Fig. 8–1

### 8.1.2 Tape Speed

- Perform this adjustment in the test mode.
- TEST mode setting.

1. Set the REV MODE to " ⇄ ".
2. Short-circuit the JP901 and JP902 (TP14) for a moment. (Set into TEST mode.)
3. The speed becomes normal when the PLAY key is pressed, and double when the FF key is pressed.
4. To cancel the TEST mode, press the DECK I COUNTER RESET key or turn off the power.

1. Tape Speed Adjustment and Check

| No. | Deck | Mode | Test tape | Adjusting points | Specifications/Ratings (playback frequency) | Remarks |
|---|---|---|---|---|---|---|
| 1 | I | Double speed PLAY | STD-301 (3 kHz) | check | 6000 Hz ± 600 Hz | |
| 2 | II | | | VR851 | Within ± 10 Hz against the measurement value of the step 1 (deck I) | |
| 3 | I | Normal speed PLAY | | VR802 | 3000 Hz ± 5 Hz | |
| 4 | II | | | VR852 | Within ± 5 Hz against the measurement value of the step 3 (deck I) | |

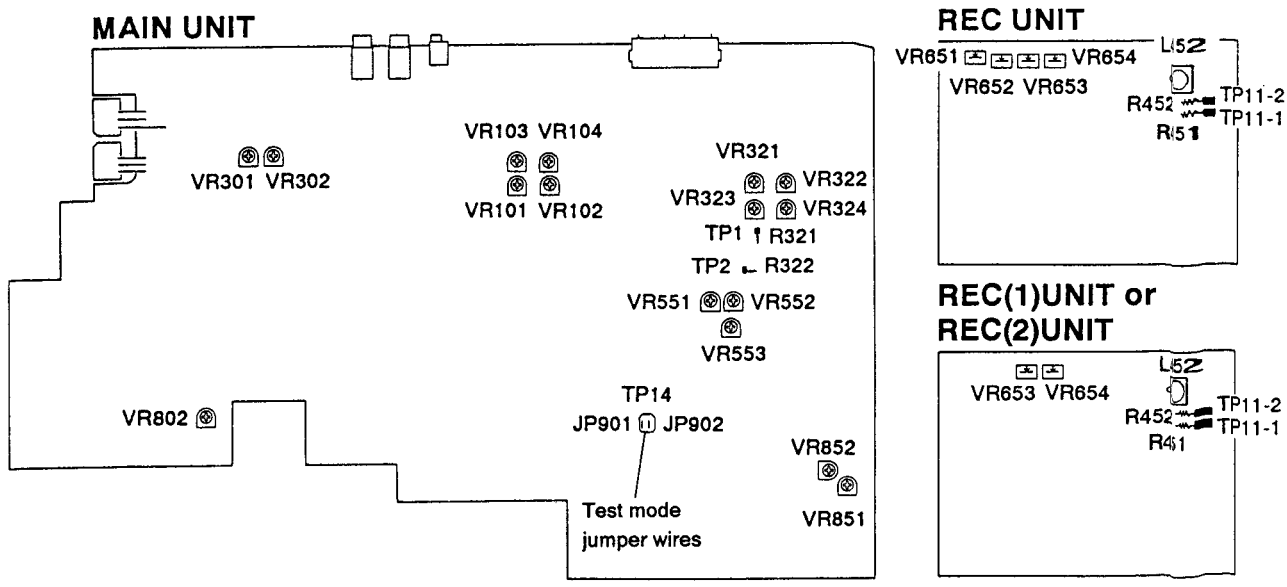



Fig. 8–2 Adjusting points

## 8.2 ELECTRICAL ADJUSTMENTS

### Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and demagnetized.
3. Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
4. The reference signal is 0 dBV=1 Vrms.
5. Connect a 50 kΩ (or between 47k to 52 kΩ ) load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.
   DOLBY NR : OFF
   TAPE SELECTOR : NORM

### Test Tapes

STD–331E : Playback adjustments (See Fig. 8–3)
STD–631 : NORMAL blank tape
STD–621 : $CrO_2$ blank tape
STD–610 : METAL blank tape

* As the reference recording level is 250 nwb/m for STD–331E, the recording level will be higher by 4 dB for STD–331B (160 nwb/m). When adjusting, pay carefull attention to the type of tape used.

### List of Adjustments

#### Playback sections

1. Head azimuth adjustment.
2. Playback level adjustment.

#### Recording sections

1. Bias oscillator adjustment.
2. Recording bias adjustment.
3. Recording level adjustment.
4. Level meter check.
5. SUPER AUTO BLE adjustment.

NOTE: This unit has an automatic tape selection feature.

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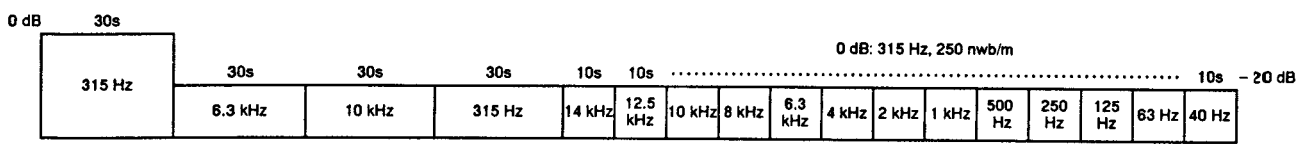


Fig. 8–3 Constants of the test tape STD–331E

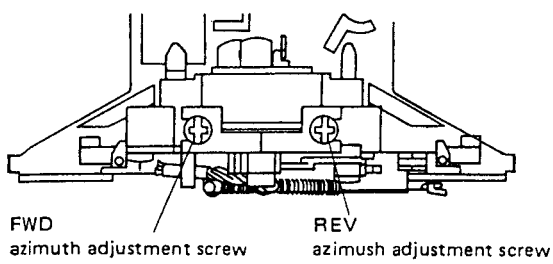


Fig. 8–4 Head azimuth adjustment

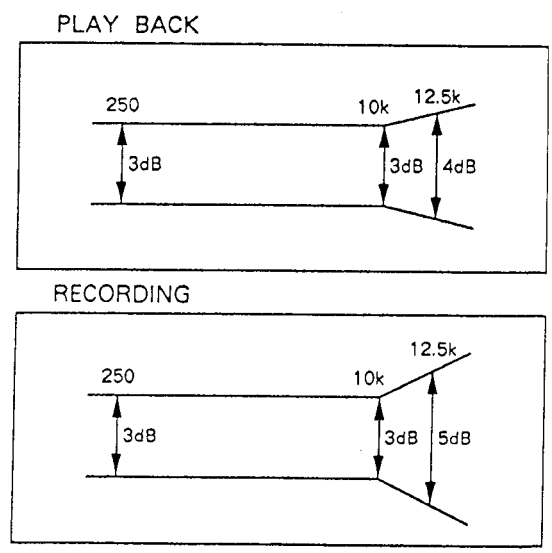


Fig. 8–5 Frequency response zone

# PLAYBACK SECTION

## 1. Head Azimuth Adjustment

- Turn VR103, 104 (Deck I) or VR101, 102 (Deck II) to mechanical center positions.

| No. | Mode | Input signal & test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|
| 1. | PLAY | Play the 10 kHz/–20 dB section of STD–331E test tape. | Head azimuth adjustment screw. (See Fig. 8–4) | LINE OUT | Maximum playback signal level. | |
| 2. | STOP | Lock the screw with screw lock after completing adjustment. | | | | |

## 2. Playback Level Adjustment

- This adjustment determines the DOLBY NR level, and must be performed with great care.

| No. | Mode | Input signal & test tape | Adjustment location | | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1. | PLAY | Play the 315 Hz/0 dB section of the STD–331E test tape. | Deck I | VR 103 (Lch) VR 104 (Rch) | TP. 1 (Lch) TP. 2 (Rch) | –6.7 dBV | |
| | | | Deck II | VR 101 (Lch) VR 102 (Rch) | | | |

# RECORDING SECTION

## 1. Bias Oscillator Adjustment

NOTE: • Adjust CT-W701R with DECK II and check it with DECK I. If the results are unsatisfactory after checking DECK I, adjust DECK II so that the adjusting value becomes the lower limit. The value is satisfactory if it is 105 kHz $\pm \frac{4}{7}$ kHz.
• The specified value for the adjustments of CT-W801R, CT-W851R is 105 kHz ± 0.3 kHz. If this specification cannot be obtained, values within 105 kHz $\pm \frac{4}{0.3}$ kHz are also satisfactory.

| No. | Mode | Input signal & test tape | Adjustment location | | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1. | REC | Load the STD–610 test tape with no input signal. | Deck I | L 452 * | TP. 11 – 1 | 105 kHz $\pm \frac{4}{7}$ kHz | CT-W701R |
| | | | | | TP. 11 (DECK I SIDE REC UNIT) | 105 kHz ± 0.3kHz | CT-W801R, W851R |
| | | | Deck II | L 452 * | TP. 11 – 2 | | CT-W701R |
| | | | | | TP. 11 (DECK II SIDE REC UNIT) | | CT-W801R, W851R |

* For CT-W801R and CT-W851R, adjust L452 in the REC (1) UNIT of DECK I when adjusting this deck, and adjust L452 in the REC (2) UNIT of DECK II when adjusting this deck.

## 2. Recording Bias Adjustment

- After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

| No. | Mode | Input signal & test tape | Adjustment location | | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1. | REC | Record the 315 Hz and 6.3 kHz signals at –26 dBV input level and playback. (STD-631) | Deck I | VR651 (Lch) * 1 VR653 (Lch) * 2 | LINE OUT | Repeatedly record, playback and adjust so that the plyaback level of 6.3 kHz signal becomes 0 dB ± 0.5 dB when compared with the 315 Hz signal. | |
| | | | | VR652 (Rch) * 1 VR654 (Rch) * 2 | | | |
| | | | Deck II | VR653 (Lch) VR654 (Rch) | | | |

* 1: CT-W701R only
* 2: CT-W801R, W851R only; Adjust VR653, VR654 of DECK I with the REC (1) UNIT of DECK I, and adjust those of DECK II with the REC (2) UNIT of DECK II

### 3. Recording Level Adjustment

| No. | Mode | Input signal & test tape | Adjustment location | | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|---|
| 1. | REC PAUSE | Apply a 315 Hz/0 dBV signal to the line input terminals, load the STD-631 test tape. | REC level control volume | | TP. 1 (Lch)<br>TP. 2 (Rch) | −11.2 dBV | |
| 2. | STOP | Set the DOLBY NR switch to the ON position. (DOLBY B) | | | | | |
| 3. | REC/ PLAY | Record the above signal onto the STD-631 test tape, and playback. | Deck I | VR321 (Lch) *1<br>VR301 (Lch) *2 | TP. 1 (Lch)<br>TP. 2 (Rch) | Repeatedly record, playback and adjust so that the playback signal level becomes − 11.2 dBV. | |
| | | | | VR322 (Rch) *1<br>VR302 (Rch) *2 | | | |
| | | | Deck II | VR323 (Lch) *1<br>VR321 (Lch) *2 | | | |
| | | | | VR324 (Rch) *1<br>VR322 (Rch) *2 | | | |
| 4. | REC/ PLAY | Record the above signal onto the STD-621 test tape, and playback. | Check | | | −11.2 dBV ± 1.5dB | |
| 5. | REC/ PLAY | Record the above signal onto the STD-610 test tape, and playback. | | | | | |

*1: CT-W701R only
*2: CT-W801R, W851R only

### 4. Level Meter Check

| No. | Mode | Input signal & test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|
| 1. | REC PAUSE | Apply a 315 Hz/−10 dBV (316 mV) signal to the Line Input terminals. | REC level control volume | TP. 1 (Lch)<br>TP. 2 (Rch) | Check that the level meters "0 dB" light up within −7.2 dBV ± 2 dB of the signal output level. | |

### 5. SUPER AUTO BLE Adjustment

- BLE adjustment should be performed after all other adjustments are completed.
- This adjustment should be performed in the test mode.
- Entering the test mode.
  For details of how to enter the test mode, refer to the "Mechanical Adjustment" section (Page 31).

| No. | Mode | Input signal & test tape | Adjustment location | Measuring location | Adjustment value | Remarks |
|---|---|---|---|---|---|---|
| 1. | − | Set to test mode. | − | − | − | |
| 2. | | Press the NORMAL SPEED key on the front panel. | Level meter | VR551 | Adjust so that − 1 dB on the level meter turn on and off. | 400 Hz adjustment |
| 3. | | Press the HIGH SPEED key on the front panel. | | VR553 | | 10 kHz adjustment |
| 4. | | Press the BLE key (DECK II SIDE) on the front panel. | | VR552 | | 3 kHz adjustment |

Reference: The output of LINE OUT after completing the adjustments for 400 Hz, 10 kHz, 3 kHz becomes − 26 dBV ± 1dB.

# 8. REGLAGES

## 8.1 REGLAGE MÉCANIQUE

### 8.1.1 Contrôle et Réglage de l'Amortisseur de Trappe

Placer le ressort de trappe du côté de la platine 1 sur la position (A) comme indiqué dans la Fig. 8-1. Redresser ensuite l'ensemble de panneau avant verticalement.

Ouvrir les trappes de la platine 1 et de la platine 2 en même temps. A ce point, s'assurer que la différence entre le degré d'ouverture des deux trappes est de moins de 15mm lorsqu'un côte de la trappe est complètement ouvert. Lorsque cette valeur est différente de la valeur standard mentionnée, changer la position de mise en place du ressort de trappe de la platine 1 et effectuer un réglage comme suit:

- Lorsque l'action d'ouverture de la trappe de la platine 1 se fait plus lentement que celle de la platine 2: Changer le ressort de la trappe de la platine 2 de A à B.
- Lorsque l'action d'ouverture de la trappe de la platine 1 se fait plus rapidement que celle de la platine 2: Changer le ressort de la trappe de la platine 1 de A à B.

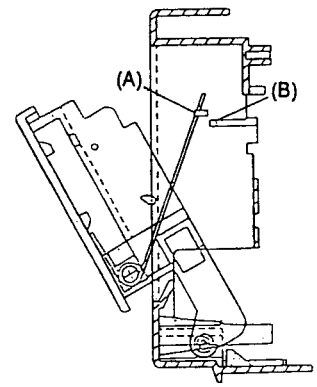


Fig. 8–1

### 8.1.2 Vitesse de défilement de la bande

- Régler au mode TEST.
- Réglage du mode TEST.

1. Régler le sélecteur REV MODE à " ⇄ ".
2. Court-circuiter JP901 et JP902 (TP14) un moment. (Régler au mode TEST.)
3. La vitesse devient normale à la pression de la touche PLAY, et double à la pression de la touche FF.
4. appuyer sur la touche DECK I COUNTER RESET ou mettre hors tension pour annuler le mode TEST.

1. Réglage et contrôle de la vitesse de défilement de la bande

| No. | Platine | Mode | Bande testée | Points de réglage | Spécifications/valeurs nominales (fréquence de lecture) | Remarques |
|---|---|---|---|---|---|---|
| 1 | I | PLAY double vitesse | STD-301 (3 kHz) | contrôl | 6000 Hz ± 600 Hz | |
| 2 | II | | | VR851 | Moins de ± 10 Hz par rapport à la valeur mesurée à l'étape 1 (platine I) | |
| 3 | I | PLAY vitesse normale | | VR802 | 3000 Hz ± 5 Hz | |
| 4 | II | | | VR852 | Moins de ± 5 Hz par rapport à la valeur mesurée à l'étape 3 (platine I) | |

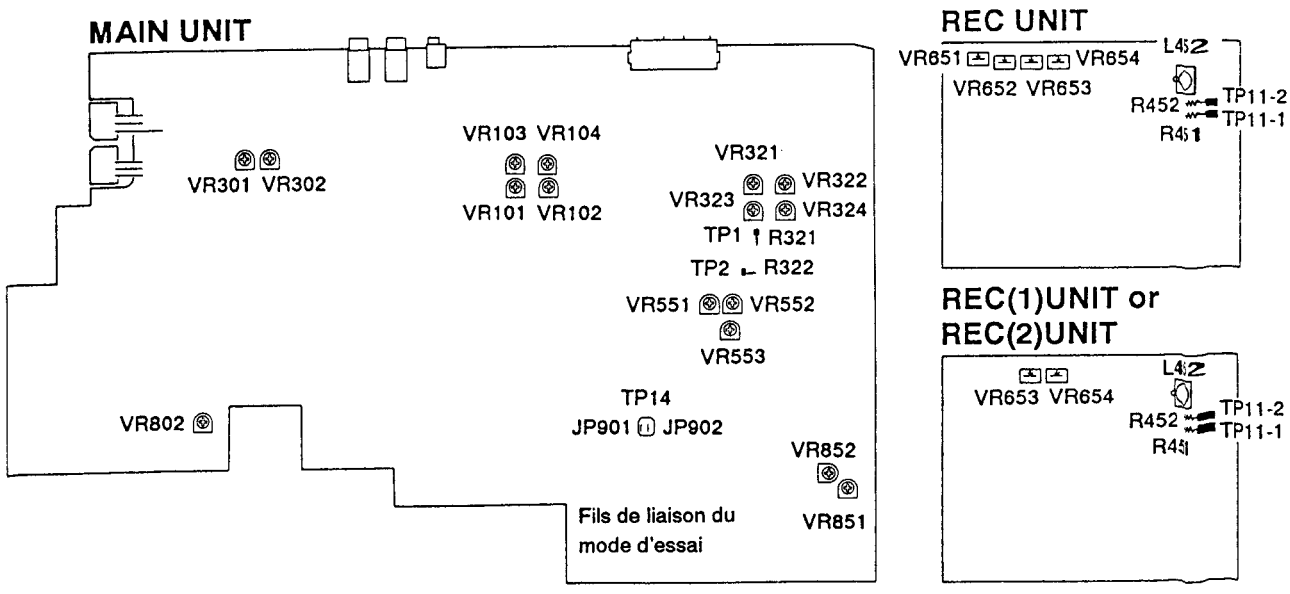


Fig. 8–2 Points réglage

## 8.2 REGLAGES ELECTRIQUES

### Conditions de réglage

1. Les réglages mécaniques doivent tout d'abord être terminés.
2. Les têtes doivent être nettoyées et démagnétisées.
3. Mettre la platine sous tension et la laisser chauffer pendant au moins quelques minutes avant de commencer les réglages électriques.
4. Le signal de référence est de 0 dBV=1 Vrms.
5. Connecter une résistance de charge de 50 kΩ (tolérance 47k à 52 kΩ ) aux bornes de sortie (OUTPUT).
6. Sauf indication contraire, les commutateurs ci–dessous doivent être laissés sur les positions indiquées.
   DOLBY NR : OFF
   Sélecteur de bande (TAPE SELECTOR) : NORM

### Bandes d'essai

STD–331E : Réglages de la lecture (Voir fig. 8–3)
STD–631 : Bande vierge de type normal
STD–621 : Bande vierge de type chrome
STD–610 : Bande vierge de type métal

* Le niveau d'enregistrement de référence étant de 250 nwb/m pour le STD–331E, le niveau d'enregistrement sera supérieur de 4 dB pour le STD–331B (160 nwb/m). Pour le réglage, tenir compte du type de bande utilisé.

### Liste des réglages

#### Sections de lecture

1. Réglage de l'azimut de la tête.
2. Réglage du niveau de lecture.

#### Sections d'enregistrement

1. Réglage de l'oscillateur de polarisation.
2. Réglage de la polarisation d'enregistrement.
3. Réglage du niveau d'enregistrement.
4. Vérification de l'indicateur de niveau.
5. Réglage de SUPER AUTO BLE.

REMARQUE:
Cette unité est dotée d'une sélection automatique de bande.

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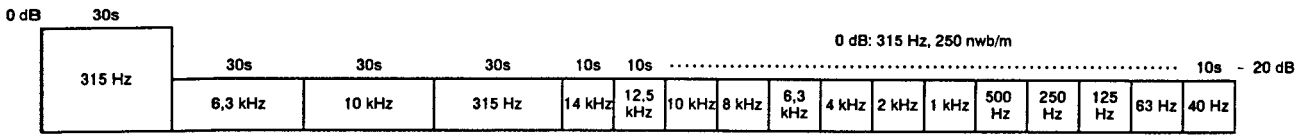


Fig. 8–3 Constantes de la bande d'essai STD–331E

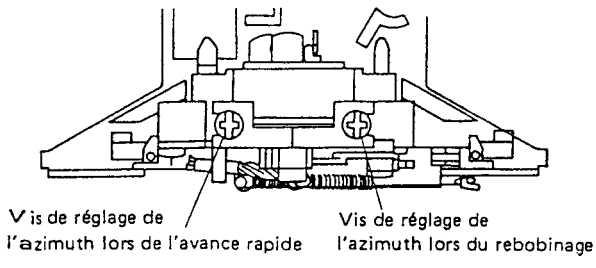


Fig. 8–4 Réglage de l'azimut de la tête

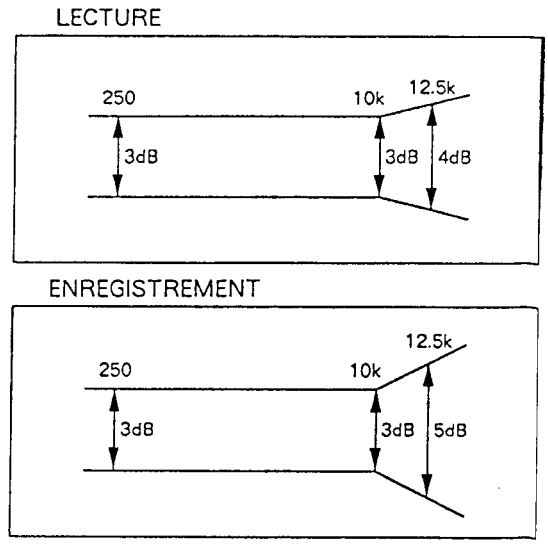


Fig. 8–5 Zone de réponse en fréquence

# SECTION DE LECTURE

## 1. Réglage de l'azimut de la tête

- Tourner VR 103, 104 (Platine I) ou VR 101, 102 (Platine II) sur leur position centrale mécanique.

| No. | Mode | Signal d'entrée et bande d'essai | Points de réglage | Points de mesure | Valeur de réglage | Remarques |
|---|---|---|---|---|---|---|
| 1. | PLAY | Reproduire la section 10 kHz/–20 dB de la bande d'essai STD–331E. | Vis de réglage de l'azimut de la tête. (Voir fig. 8–4) | Sortie de ligne (LINE OUT) | Niveau du signal de reproduction maximum. | |
| 2. | STOP | Verrouiller la vis avec le verrouillage de vis après avoir terminé le réglage. | | | | |

## 2. Réglage du niveau de lecture

- Ce réglage détermine le niveau DOLBY NR et il doit être effectué très soigneusement.

| No. | Mode | Signal d'entrée et bande d'essai | Points de réglage | | Points de mesure | Valeur de réglage | Remarques |
|---|---|---|---|---|---|---|---|
| 1. | PLAY | Reproduire la section 315 Hz/0 dB de la bande d'essai STD–331E. | Platine I | VR103 (can. G) VR104 (can. D) | TP. 1 (can. G) TP. 2 (can. D) | –6.7 dBV | |
| | | | Platine II | VR101 (can. G) VR102 (can. D) | | | |

# SECTION D'ENREGISTREMENT

## 1. Réglage de l'oscillateur de polarisation

NOTE: • Régler CT-W701R avec DECK II et le contrôler avec DECK I. Si le résultat n'est pas satisfaisant après le contrôle de DECK I, régler DECK II de sorte que la valeur réglée soit celle de la limite inférieure. Une valeur entre 105 kHz $\pm \frac{4}{7}$ kHz est satisfaisante.
• La valeur de réglage spécifiée pour les CT-W801R et CT-W851R est 105 kHz ± 0.3 kHz. Si elle ne peut pas être obtenue, des valeurs de 105 kHz $\pm \frac{4}{0.3}$ kHz sont aussi acceptables.

| No. | Mode | Signal d'entrée et bande d'essai | Points de réglage | | Points de mesure | Valeur de réglage | Remarques |
|---|---|---|---|---|---|---|---|
| 1. | REC | Charger la bande d'essai STD–610 et n'introduire aucun signal. | Platine I | L 452* | TP. 11 – 1 | 105 kHz $\pm \frac{4}{7}$ kHz | CT-W701R |
| | | | | | TP. 11 (DECK I SIDE REC UNIT) | 105 kHz ± 0.3 kHz | CT-W801R, W851R |
| | | | Platine II | L 452* | TP. 11 – 2 | | CT-W701R |
| | | | | | TP. 11 (DECK II SIDE REC UNIT) | | CT-W801R, W851R |

* Pour CT-W801R et CT-W851R, régler L452 dans le REC (1) UNIT de DECK I en réglant cette platine, et régler L452 dans REC (2) UNIT de DECK II en réglant cette platine.

## 2. Réglage de la polarisation d'enregistrement

- Après le réglage, des précautions doivent être prises pour éviter une sous–polarisation en vérifiant le taux de distorsion.

| No. | Mode | Signal d'entrée et bande d'essai | Points de réglage | | Points de mesure | Valeur de réglage | Remarques |
|---|---|---|---|---|---|---|---|
| 1. | STOP | Enregistrer les signaux 315 Hz et 6,3 kHz à un niveau d'entrée de –26 dBV et les reproduire. (STD – 631) | Platine I | VR851 (can. G) * 1 VR853 (can. G) * 2 | Sortie de ligne (LINE OUT) | Enregistrer, reproduire et régler de manière répétée de sorte que le niveau de lecture du signal 6,3 kHz devienne 0 dB ± 0.5 dB lorsqu'il est comparé avec le signal 315 Hz. | |
| | | | | VR852 (can. D) * 1 VR854 (can. D) * 2 | | | |
| | | | Platine II | VR853 (can. G) VR854 (can. D) | | | |

* 1: CT-W701R seulement
* 2: CT-W801R, W851R seulement: Régler VR853, VR854 de DECK I avec REC (1) UNIT de DECK I, puis ceux de DECK II avec REC (2) UNIT de DECK II.

## 3. Réglage du niveau d'enregistrement

| No. | Mode | Signal d'entrée et bande d'essai | Points de réglage | | Points de mesure | Valeur de réglage | Remarques |
|---|---|---|---|---|---|---|---|
| 1. | REC PAUSE | Appliquer un signal de 315 Hz/0 dBV aux bornes d'entrée de ligne, charger la bande d'essai STD-631. | Volume de la commande de niveau d'enregistrement. | | TP. 1 (can. G)<br>TP. 2 (can. D) | -11.2 dBV | |
| 2. | STOP | Régler le commutateur DOLBY NR sur la position ON. (DOLBY B) | | | | | |
| 3. | REC/ PLAY | Enregistrer le signal cidessus sur la bande d'essai STD-631 et le reproduire. | Platine I | VR321 (can. G) *1<br>VR301 (can. G) *2 | TP. 1 (can. G)<br>TP. 2 (can. D) | Enregistrer, reproduire et régler de manière répétée de sorte que le niveau du signal devienne − 11.2 dBV. | |
| | | | | VR322 (can. D) *1<br>VR302 (can. D) *2 | | | |
| | | | Platine II | VR323 (can. G) *1<br>VR321 (can. G) *2 | | | |
| | | | | VR324 (can. D) *1<br>VR322 (can. D) *2 | | | |
| 4. | REC/ PLAY | Enregistrer le signal cidessus sur la bande d'essai STD-621 et le reproduire. | Vérifier | | | -11.2 dBV ± 1.5 dB | |
| 5. | REC/ PLAY | Enregistrer le signal cidessus sur la bande d'essai STD-610 et le reproduire. | | | | | |

*1: CT-W701R seulement
*2: CT-W801R, W851R seulement

## 4. Vérification de l'indicateur de niveau

| No. | Mode | Signal d'entrée et bande d'essai | Points de réglage | Points de mesure | Valeur de réglage | Remarques |
|---|---|---|---|---|---|---|
| 1. | REC PAUSE | Appliquer un signal de 315 Hz/−10 dBV (316 mV) aux bornes d'entrée de ligne. | Volume de la commande de niveau d'enregistrement | TP. 1 (can. G)<br>TP. 2 (can. D) | Vérifier que les indicateurs de niveau "0 dB" s'allument dans la limite de -7.2 dBV ± 2 dB du niveau de sortie du signal. | |

## 5. Réglage de SUPER AUTO BLE

- Leréglage BLE doit être effectué après que tous les autres réglages sont complétés.
- Ce réglage doit être effectué dans le mode d'essai.
- Passage au mode d'essai.
  Pour les détails du passage en mode d'essai, voir la section "Réglages mécaniques" (Page 36).

| No. | Mode | Signal d'entrée et bande d'essai | Points de réglage | Points de mesure | Valeur de réglage | Remarques |
|---|---|---|---|---|---|---|
| 1. | − | Régler dans le mode d'essai. | − | − | − | |
| 2. | | Appuyer sur la touche NORMAL SPEED du panneau avant. | L'indicateur de niveau | VR551 | Régler de sorte que − 1 dB sur l'indicateur de niveau s'allume et s'éteigne. | Réglage 400 Hz |
| 3. | | Appuyer sur la touche HIGH SPEED du panneau avant. | | VR553 | | Réglage 10 kHz |
| 4. | | Appuyer sur la touche BLE(DECK II SIDE) du panneau avant. | | VR552 | | Réglage 3 kHz |

Référence: Après l'achèvement des réglages pour 400 Hz, 10 kHz et 3 kHz, la sortie de LINE OUT devient − 26 dBV ± 1 dB.

# 8. AJUSTES

## 8.1 AJUSTE MECANICO

### 8.1.1 Comprobación y ajuste de la amortiguación de la puerta

Ajuste el resorte de la puerta del DECK 1 en la posición (A) como se muestra en la Fig. 8-1. Luego, levante el conjunto del panel frontal en forma vertical. Abra las puertas de los DECK 1 y DECK 2 al mismo tiempo.
Entonces, confirme que la diferencia entre el grado de abertura de ambas puertas sea de 15mm como máximo cuando se abre por completo un lado de la puerta. Cuando no se satisfacen estas medidas, cambie la posición de instalación del resorte de la puerta del DECK 1 y efectúe el ajuste del modo siguiente:

- Cuando la acción de abrir la puerta del DECK 1 es más retardada que la del DECK 2: Cambie el resorte de la puerta del DECK 2 de A a B.
- Cuando la acción de abrir la puerta del DECK 1 es más rápida que la del DECK 2: Cambie el resorte de la puerta del DECK 1 de A a B.

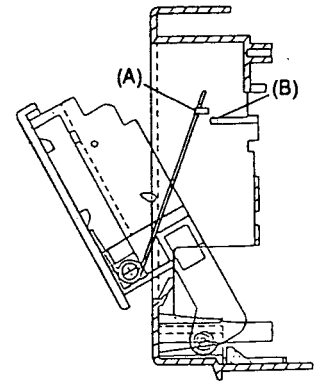


Figura. 8–1

### 8.1.2 Velocidad de la Cinta

- Realice este ajuste en el modo de prueba.
- Ajuste del modo TEST.

1. Ajuste el REV MODE en "⇄".
2. Cortocircuite JP901 y JP902 (TP14) durante un momento.(Ajuste en el modo TEST.)
3. La velocidad es normal cuando se oprime la tecla PLAY, y doble cuando se oprime la tecla FF.
4. Para cancelar el modo TEST, oprima la tecla DECK I COUNTER RESET o desconecte la alimentación.

| 1. Ajuste y Verificación de la Velocidad de la Cinta | | | | | | |
|---|---|---|---|---|---|---|
| N.º | Unidad | Modo | Cinta de prueba | Puntos de ajuste | Especificaciones/Valores nominales (frecuencia de reproducción) | Observaciones |
| 1 | I | PLAY a velocidad doble | STD-301 (3 kHz) | Verificar | 6000 Hz ± 600 Hz | |
| 2 | II | | | VR851 | Dentro de ± 10 Hz contra el valor de medición del paso 1 (unidad I) | |
| 3 | I | PLAY a velocidad normal | | VR802 | 3000 Hz ± 5 Hz | |
| 4 | II | | | VR852 | Dentro de ± 5 Hz contra el valor de medición del paso 3 (unidad I) | |

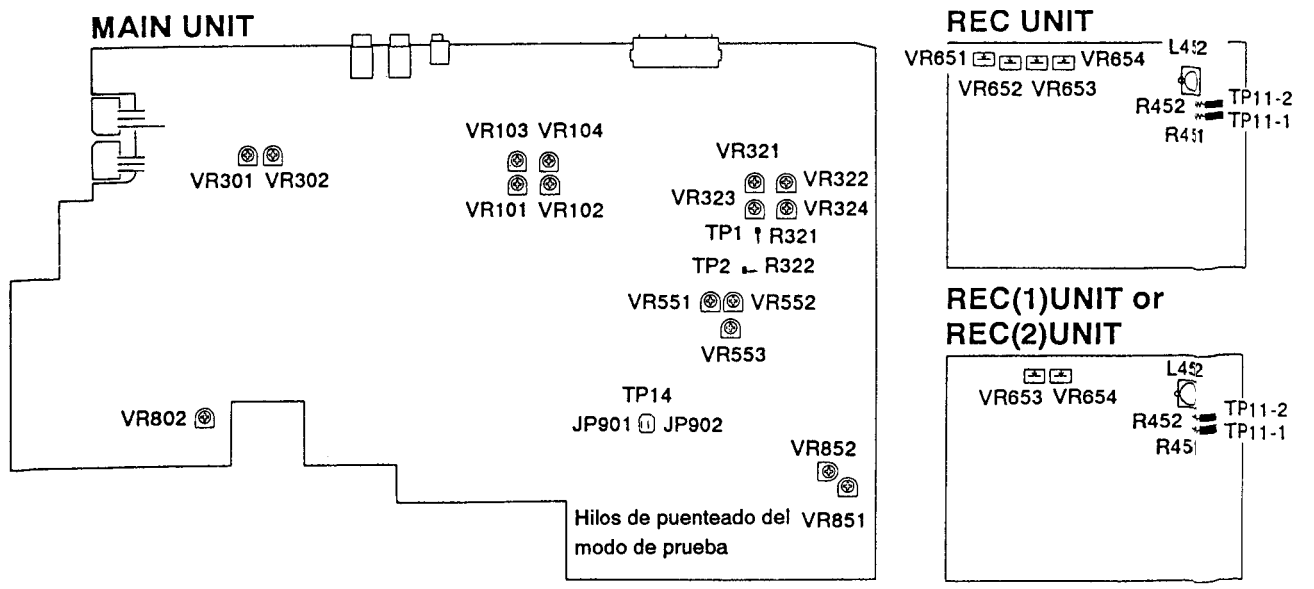


Figura. 8–2 Puntos de ajuste

## 8.2 AJUSTES ELÉCTRICOS

### Condiciones de ajuste

1. Los ajustes mecánicos deben haberse completado primero.
2. La cabeza debe estar limpia y desmagnetizada.
3. Encienda la alimentación para permitir que la platina se caliente durante unos pocos minutos por lo menos antes de realizar cualquier ajuste eléctrico.
4. La señal de referencia es de 0 dBV=1 Vrms.
5. Conecte una resistencia de 50 kΩ (o entre 47k y 52 kΩ ) en los terminales OUTPUT.
6. A menos que se especifique lo contrario, los conmutadores indicados más abajo deben dejarse en las posiciones indicadas.
   DOLBY NR : OFF
   TAPE SELECTOR : NORM

### Cintas de prueba

STD–331E : Ajustes de reproducción (Consulte la figura 8–3)
STD–631 : Cinta virgen NORMAL
STD–621 : Cinta virgen de $CrO_2$
STD–610 : Cinta virgen de METAL

* Como el nivel de grabación de referencia es igual a 250 nwb/m para el STD–331E, el nivel de grabación será 4 dB mayor para el STD–331B (160 nwb/m). Al realizer el ajuste, preste suma atención al tipo de cintá que se está utilizando.

### Lista de ajustes

#### Secciones de reproducción

1. Ajuste de azimut de la cabeza
2. Ajuste del nivel de reproducción

#### Secciones de grabación

1. Ajuste del oscillador de polarización
2. Ajuste de la polarización de grabación
3. Ajuste del nivel de grabación
4. Verificación del medidor de nivel
5. Ajuste SUPER AUTO BLE

NOTA:
Esta unidad posee una función de selección automática de cinta.

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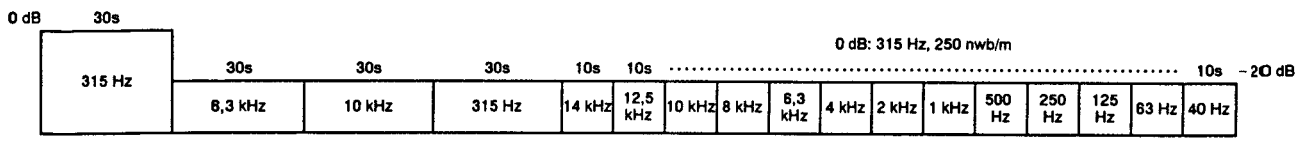



Figura 8–3 Constantes de la cinta de prueba STD–331E

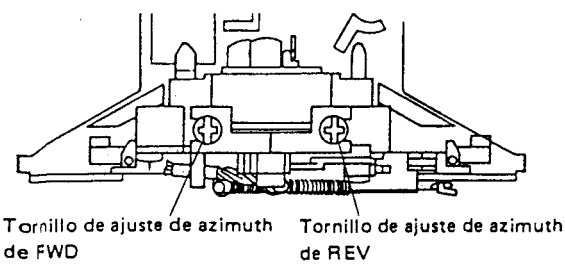



Figura 8–4 Ajuste de azimut de la cabeza

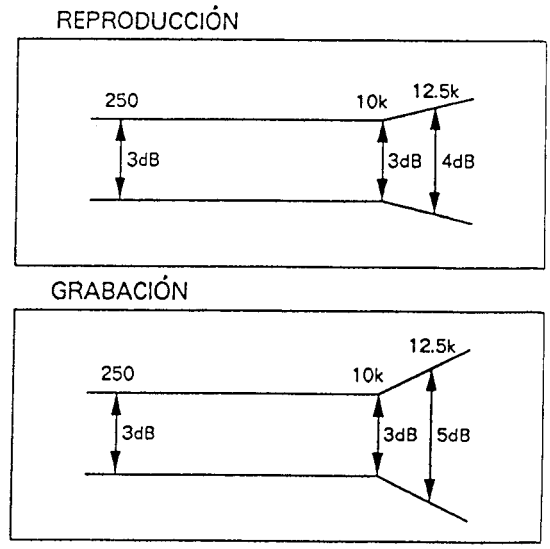



Figura 8–5 Zona de respuesta de frecuencia

# SECCIÓN DE REPRODUCCIÓN

## 1. Ajuste del azimut de la cabeza

- Poner VR103, 104 (platina I) o VR101, 102 (platina II) en las posiciones del centro mecánico.

| N.° | Modo | Señal de entrada y cinta de prueba | Punto de ajuste | Punto de medición | Valor de ajuste | Comentarios |
|---|---|---|---|---|---|---|
| 1. | PLAY | Reproduzca la sección de 10 kHz/–20 dB de la cinta de prueba STD–331E. | Tornillo de ajuste del azimut de la cabeza. (Vea la figura 8–4) | LINE OUT | Nivel máximo de la señal de reproducción. | |
| 2. | STOP | Bloquee el tornillo con su cierre una vez finalizado el ajuste. | | | | |

## 2. Ajuste del nivel de reproducción

- Este ajuste determina el nivel DOLBY NR y debe realizarse con mucho cuidado.

| N.° | Modo | Señal de entrada y cinta de prueba | Punto de ajuste | | Punto de medición | Valor de ajuste | Comentarios |
|---|---|---|---|---|---|---|---|
| 1. | PLAY | Produzca la parte de 315 Hz/0 dB de la cinta de prueba STD–331E. | Platina I | VR103 (Lch)<br>VR104 (Rch) | TP. 1 (Lch)<br>TP. 2 (Rch) | –6.7 dBV | |
| | | | Platina II | VR101 (Lch)<br>VR102 (Rch) | | | |

# SECCIÓN DE GRABACIÓN

## 1. Ajuste del oscilador de polarización

Nota: • Ajuste el CT-W701R con el DECK II y verifíquelo con el DECK I. Si después de verificar el DECK I los resultados no son satisfactorios, ajuste el DECK II en forma tal que el valor de ajuste sea igual al límite inferior. El valor es satisfactorio si el igual a 105 kHz $\pm \frac{4}{7}$ kHz.
• El valor especificado para los ajustes de CT-W801R, CT-W851R es 105 kHz ± 0.3 kHz.Si no fuera posible obtener esta especificación,valores comprendidos entre 105 kHz $\pm \frac{4}{0.3}$ kHz son también satisfactorios.

| N.° | Modo | Señal de entrada y cinta de prueba | Punto de ajuste | | Punto de medición | Valor de ajuste | Comentarios |
|---|---|---|---|---|---|---|---|
| 1. | REC | Introduzca la cinta de prueba STD–610 sin señal de entrada. | Platina I | L452* | TP. 11 – 1 | 105 kHz $\pm \frac{4}{7}$ kHz | CT-W701R |
| | | | | | TP. 11(DECK I SIDE REC UNIT) | 105 kHz ± 0.3 kHz | CT-W801R, W851R |
| | | | Platina II | L452* | TP. 11 – 2 | | CT-W701R |
| | | | | | TP. 11(DECK II SIDE REC UNIT) | | CT-W801R, W851R |

Para el CT-W801R y el CT-W851R, ajuste L452 en la REC (1) UNIT del DECK I cuando ajuste este magnetófono, y ajuste L452 en la REC (2)UNIT del DECK II cuando ajuste este magnetófono.

## 2. Ajuste de polarización de grabación

- Una vez finalizado el ajuste, compruebe el porcentaje de distorsión para no obtener subpolarización.

| N.° | Modo | Señal de entrada y cinta de prueba | Punto de ajuste | | Punto de medición | Valor de ajuste | Comentarios |
|---|---|---|---|---|---|---|---|
| 1. | REC | Grabe la señal de 315 Hz y 6,3 kHz a un nivel de entrada de –26 dBV y reprodúzcala. (STD – 631) | Platina I | VR651 (Lch) *1<br>VR653 (Lch) *2 | LINE OUT | Grabe, reproduzca y ajuste repetidamente para que el nivel de la señal de reproducción de 6,3 kHz sea de 0 dB ± 0.5 dB cuando se compare con la señal de 315 Hz. | |
| | | | | VR652 (Rch) *1<br>VR654 (Rch) *2 | | | |
| | | | Platina II | VR653 (Lch)<br>VR654 (Lch) | | | |

*1: CT-W701R solamente
*2: CT-W801R, W851R solamente: Ajuste VR653, VR654 del DECK I con la REC (1) UNIT del DECK I, y ajuste los del DECK II con la REC (2) UNIT del DECK II.

## 3. Ajuste del nivel de grabación

| N.º | Modo | Señal de entrada y cinta de prueba | Punto de ajuste | | Punto de medición | Valor de ajuste | Comentarios |
|---|---|---|---|---|---|---|---|
| 1. | REC PAUSE | Aplique una señal de 315 Hz/0 dBV a los terminales de entrada de línea e introduzca la cinta de prueba STD-631. | Control de nivel de grabación. | | TP. 1 (Lch)<br>TP. 2 (Rch) | -11.2 dBV | |
| 2. | STOP | Ponga el conmutador DOLBY NR en la posición ON. (DOLBY B) | | | | | |
| 3. | REC/ PLAY | Grabe la señal de arriba en la cinta de prueba STD-631 y reprodúzcala. | Platina I | VR321 (Lch) *1<br>VR301 (Lch) *2 | TP. 1 (Lch)<br>TP. 2 (Rch) | Grabe, reproduzca y ajuste repetidamente para que el nivel de la señal de reproducción sea de − 11.2 dBV. | |
| | | | | VR322 (Rch) *1<br>VR302 (Rch) *2 | | | |
| | | | Platina II | VR323 (Lch) *1<br>VR321 (Lch) *2 | | | |
| | | | | VR324 (Rch) *1<br>VR322 (Rch) *2 | | | |
| 4. | REC/ PLAY | Grabe la señal de arriba en la cinta de prueba STD-621 y reprodúzcala. | Verifique | | | -11.2 dBV ± 1.5dB | |
| 5. | REC/ PLAY | Grabe la señal de arriba en la cinta de prueba STD-610 y reprodúzcala. | | | | | |

*1: CT-W701R solamente
*2: CT-W801R, W851R solamente

## 4. Verificación del medidor de nivel

| N.º | Modo | Señal de entrada y cinta de prueba | Punto de ajuste | Punto de medición | Valor de ajuste | Comentarios |
|---|---|---|---|---|---|---|
| 1. | REC PAUSE | Aplique una señal de 315 Hz/−10 dBV (316 mV) a los terminales de entrada de línea. | Control de nivel de grabación | TP. 1 (Lch)<br>TP. 2 (Rch) | Verifique si se encienden los medidores de nivel "0 dB" cuando el nivel de salida de la señal sea -7.2 dBV ± 2 dB. | |

## 5. Ajuste SUPER AUTO BLE

- El ajuste BLE debe efectuarse después de haber terminado todos los otros ajustes.
- Este ajuste debe efectuarse en el modo de prueba.
- Cómo establecer el modo de prueba.
  Con respecto a los detalles de cómo se entra en el modo de prueba, consulte la sección "Ajuste Mecánico" (Página41).

| N.º | Modo | Señal de entrada y cinta de prueba | Punto de ajuste | Punto de medición | Valor de ajuste | Comentarios |
|---|---|---|---|---|---|---|
| 1. | − | Establezca el modo de prueba. | − | − | − | |
| 2. | | Pulse la tecla NORMAL SPEED del panel delantero. | En medidor de nivel | VR551 | Ajuste de modo tal que − 1dB se active y desactive en el medidor de nivel. | Ajuste de 400 Hz |
| 3. | | Pulse la tecla HIGH SPEED del panel delantero. | | VR553 | | Ajuste de 10 kHz |
| 4. | | Pulse la tecla BLE (DECK II SIDE)del panel delantero. | | VR552 | | Ajuste de 3 kHz |

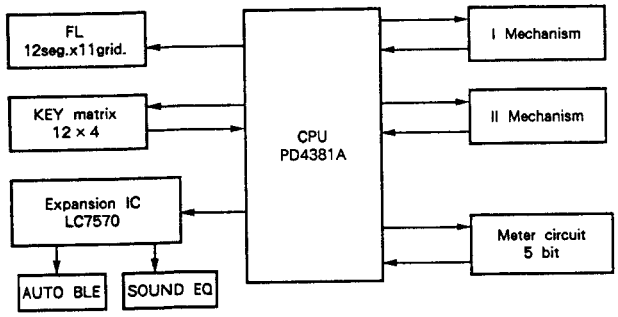
Referencia: Después de completar los ajustes para 400 Hz, 10 kHz y 3 kHz, la salida de LINE OUT es igual a − 26 dBV ± 1 dB.

# 9. IC DESCRIPTIONS

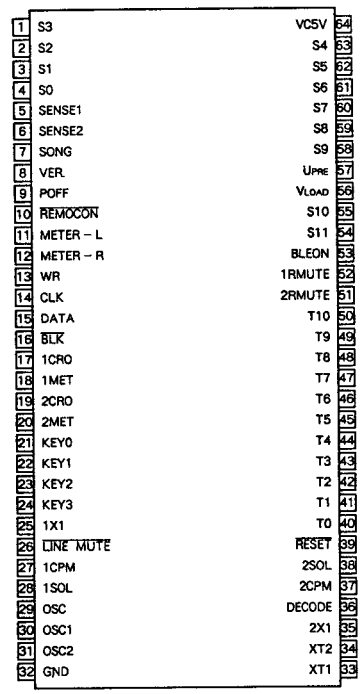
• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

## 9.1 PD4381A (IC501)

### ● Block diagram




### ● Pin arrangement



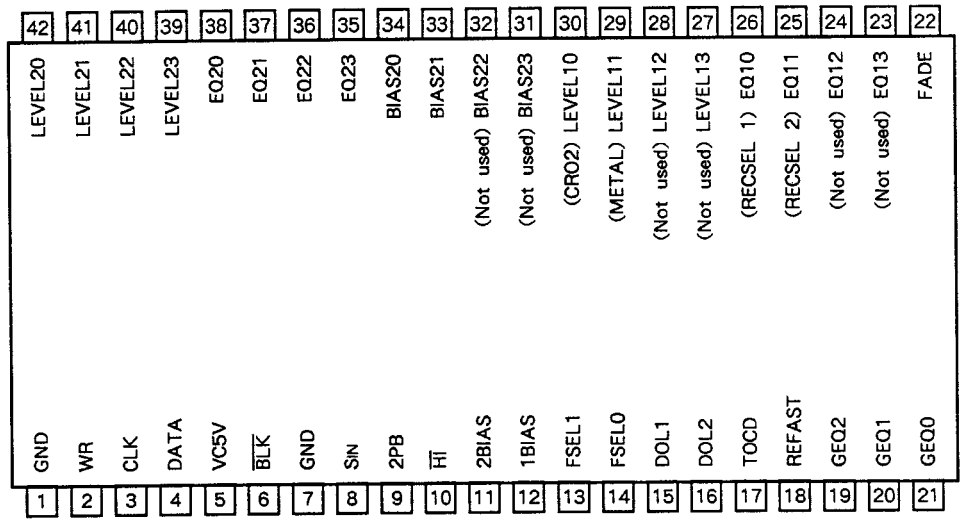

### ● Terminal descriptions

| Pin No. | Name | I/O | Descriptions | Pin No. | Name | I/O | Descriptions |
|---|---|---|---|---|---|---|---|
| 1 | S3 | O | Segment output, key scan output, level scan output terminal | 16 | $\overline{\text{BLK}}$ | O | Output stop output terminal for expansion IC |
| 2 | S2 | O | Segment output, key scan output, level scan output terminal | 17 | 1CRO | I | 1 mechanism CrO2 detection input terminal "L"=SW ON |
| 3 | S1 | O | Segment output, key scan output, level scan output terminal | 18 | 1MET | I | 1 mechanism METAL detection input terminal "L"=SW ON |
| 4 | S0 | O | Segment output, key scan output, level scan output terminal | 19 | 2CRO | I | 2 mechanism CrO2 detection input terminal "L"=SW ON |
| 5 | SENSE1 | I | 1 mechanism sensing pulse input terminal | 20 | 2MET | I | 2 mechanism METAL detection input terminal "L"=SW ON |
| 6 | SENSE2 | I | 2 mechanism sensing pulse input terminal | 21 | KEY0 | I | Input terminal for key scan |
| 7 | SONG | I | SONG input terminal "H"=SONG exists. | 22 | KEY1 | I | Input terminal for key scan |
| 8 | VER. | I | VER. switching terminal | 23 | KEY2 | I | Input terminal for key scan |
| 9 | POFF | I | POWER OFF input terminal "H" active | 24 | KEY3 | I | Input terminal for key scan |
| 10 | $\overline{\text{REMOCON}}$ | I | Remote commander input terminal | 25 | 1 × 1 | O | 1 mechanism normal speed/double speed switching output terminal "L": Double speed |
| 11 | METER – L | I | Input terminal for L cH level detection | 26 | $\overline{\text{LINE MUTE}}$ | O | Line mute output terminal "L"=ON |
| 12 | METER – R | I | Input terminal for R cH level detection | 27 | 1CPM | O | 1 mechanism capstan motor driving terminal "H"=ON |
| 13 | WR | O | Output timing output terminal for expansion IC | 28 | 1SOL | O | 1 mechanism solenoid driving terminal "H"=ON |
| 14 | CLK | O | Clock output terminal for expansion IC | 29 | OSC | O | 400/10 kHz square wave output terminal for AUTO BLE |
| 15 | DATA | O | Data output terminal for expansion IC | 30 | OSC1 | – | Crystal/ceramic connecting terminal for main system clock oscillation |

| Pin No. | Name | I/O | Function | Pin No. | Name | I/O | Function |
|---|---|---|---|---|---|---|---|
| 31 | OSC2 | – | Crystal/ceramic connecting terminal for main system clock oscillation | 48 | T8 | O | Grid output terminal for FL display |
| 32 | GND | – | GND | 49 | T9 | O | Grid output terminal for FL display |
| 33 | XT1 | I | Crystal connecting terminal for sub-system clock oscillation (Not used) | 50 | T10 | O | Grid output terminal for FL display |
| 34 | XT2 | – | Crystal connecting terminal for sub-system clock oscillation (Not used) | 51 | 2RMUTE | O | 2 mechanism REC mute output terminal "H"=ON |
| 35 | 2 × 1 | O | 2 mechanism normal speed/double speed switching output terminal "L"=Double speed | 52 | 1RMUTE | O | 1 mechanism REC mute output terminal "H"=ON |
| 36 | DECODE | O | Decode/encode output terminal "H"=DECODE, "L"=ENCODE | 53 | BLEON | O | AUTO BLE ON output terminal On at BLE |
| 37 | 2CPM | O | 2 mechanism capstan motor driving terminal "H"=ON | 54 | S11 | O | Segment output, key scan output terminal |
| 38 | 2SOL | O | 2 mechanism solenoid driving terminal "H"=ON | 55 | S10 | O | Segment output, key scan output terminal |
| 39 | $\overline{\text{RESET}}$ | I | System reset input terminal "L" active | 56 | VLOAD | – | Pull-down resistor connecting terminal for FL controller/driver (Not used) |
| 40 | T0 | O | Grid output terminal for FL display | 57 | VPRE | – | Power supply terminal for FL controller/driver output buffer |
| 41 | T1 | O | Grid output terminal for FL display | 58 | S9 | O | Segment output, key scan output terminal |
| 42 | T2 | O | Grid output terminal for FL display | 59 | S8 | O | Segment output, key scan output terminal |
| 43 | T3 | O | Grid output terminal for FL display | 60 | S7 | O | Segment output, key scan output terminal |
| 44 | T4 | O | Grid output terminal for FL display | 61 | S6 | O | Segment output, key scan output terminal |
| 45 | T5 | O | Grid output terminal for FL display | 62 | S5 | O | Segment output, key scan output terminal |
| 46 | T6 | O | Grid output terminal for FL display | 63 | S4 | O | Segment output, key scan output, level scan output terminal |
| 47 | T7 | O | Grid output terminal for FL display | 64 | VC5V | – | +5V power supply terminal |

## 9.2 LC7570 (IC510)

### ● Port arrangement




The ( ) contains the pin names for CT-W701R.

### ● Terminal descriptions

| Pin No. | Name | Descriptions | Pin No. | Name | Descriptions |
|---|---|---|---|---|---|
| 1 | GND | Pull-down resistor COMMON terminal | 24 | EQ12 | Output terminal bit 2 for 1 mechanism AUTO BLE EQ correction (CT-W701R is not used) |
| 2 | WR | Output timing input terminal | 25 | EQ11 | Output terminal bit 1 for 1 mechanism AUTO BLE EQ correction (CT-W801R, W851R) |
| 3 | CLK | Clock input terminal | | RECSEL2 | REC mode 2 mechanism select output terminal (CT-W701R) |
| 4 | DATA | Data input terminal | 26 | EQ10 | Output terminal bit 0 for 1 mechanism AUTO BLE EQ correction (CT-W801R, W851R) |
| 5 | VC5V | +5V power supply terminal | | RECSEL1 | REC mode 1 mechanism select output terminal (CT-W701R) |
| 6 | $\overline{BLK}$ | Output stop input terminal | 27 | LEVEL13 | Output terminal bit 3 for 1 mechanism AUTO BLE LEVEL correction (CT-W701R is not used) |
| 7 | GND | GND | 28 | LEVEL12 | Output terminal bit 2 for 1 mechanism AUTO BLE LEVEL correction (CT-W701R is not used) |
| 8 | SIN | Not used | 29 | LEVEL11 | Output terminal bit 1 for 1 mechanism AUTO BLE LEVEL correction (CT-W801R, W851R) |
| 9 | 2PB | REC/PB head switching output terminal "H" during playing back 2 mechanism | | METAL | Recording system METAL auto tape select output terminal (CT-W701R) |
| 10 | $\overline{HI}$ | Playback equalizer switching output terminal "L" at HI position | 30 | LEVEL10 | Output terminal bit 0 for 1 mechanism AUTO BLE LEVEL correction (CT-W801R, W851R) |
| 11 | 2BIAS | Output terminal for 2 mechanism BIAS oscillation | | CRO2 | Recording system CRO2 auto tape select output terminal (CT-W701R) |
| 12 | 1BIAS | Output terminal for 1 mechanism BIAS oscillation | 31 | BIAS11 | Output terminal bit 1 for 1 mechanism AUTO BLE BIAS correction (CT-W701R is not used) |
| 13 | FSEL1 | Frequency switching output terminal 1 for AUTO BLE | 32 | BIAS10 | Output terminal bit 0 for 1 mechanism AUTO BLE BIAS correction (CT-W701R is not used) |
| 14 | FSEL0 | Frequency switching output terminal 0 for AUTO BLE | 33 | BIAS21 | Output terminal bit 1 for 2 mechanism AUTO BLE BIAS correction |
| 15 | DOL1 | Dolby switching output terminal 1 | 34 | BIAS20 | Output terminal bit 0 for 2 mechanism AUTO BLE BIAS correction |
| 16 | DOL2 | Dolby switching output terminal 2 | 35 | EQ23 | Output terminal bit 3 for 2 mechanism AUTO BLE EQ correction |
| 17 | TOCD | CD control signal output terminal | 36 | EQ22 | Output terminal bit 2 for 2 mechanism AUTO BLE EQ correction |
| 18 | REFAST | Constant switching output terminal at meter amplifier FAST="H", SLOW="L" | 37 | EQ21 | Output terminal bit 1 for 2 mechanism AUTO BLE EQ correction |
| 19 | GEQ2 | Surround EQ output terminal 2 | 38 | EQ20 | Output terminal bit 0 for 2 mechanism AUTO BLE EQ correction |
| 20 | GEQ1 | Surround EQ output terminal 1 | 39 | LEVEL23 | Output terminal bit 3 for 2 mechanism AUTO BLE LEVEL correction |
| 21 | GEQ0 | Surround EQ output terminal 0 | 40 | LEVEL22 | Output terminal bit 2 for 2 mechanism AUTO BLE LEVEL correction |
| 22 | FADE | Fade out output terminal | 41 | LEVEL21 | Output terminal bit 1 for 2 mechanism AUTO BLE LEVEL correction |
| 23 | EQ13 | Output terminal bit 3 for 1 mechanism AUTO BLE EQ correction (CT-W701R is not used) | 42 | LEVEL20 | Output terminal bit 0 for 2 mechanism AUTO BLE LEVEL correction |

## 9.3 Power On Initializing

1. CPU Reset

When the power is turned on, the RESET terminal (Pin 39) of the CPU synchronizes with the rising of the CPU 5V. The reset is released, and processing starts from the head of the program. As each CPU port goes into the "high impedance" condition during the time from power on to reset release, it is necessary to set to "H" or "L" with external parts.

(a) Port Initializing

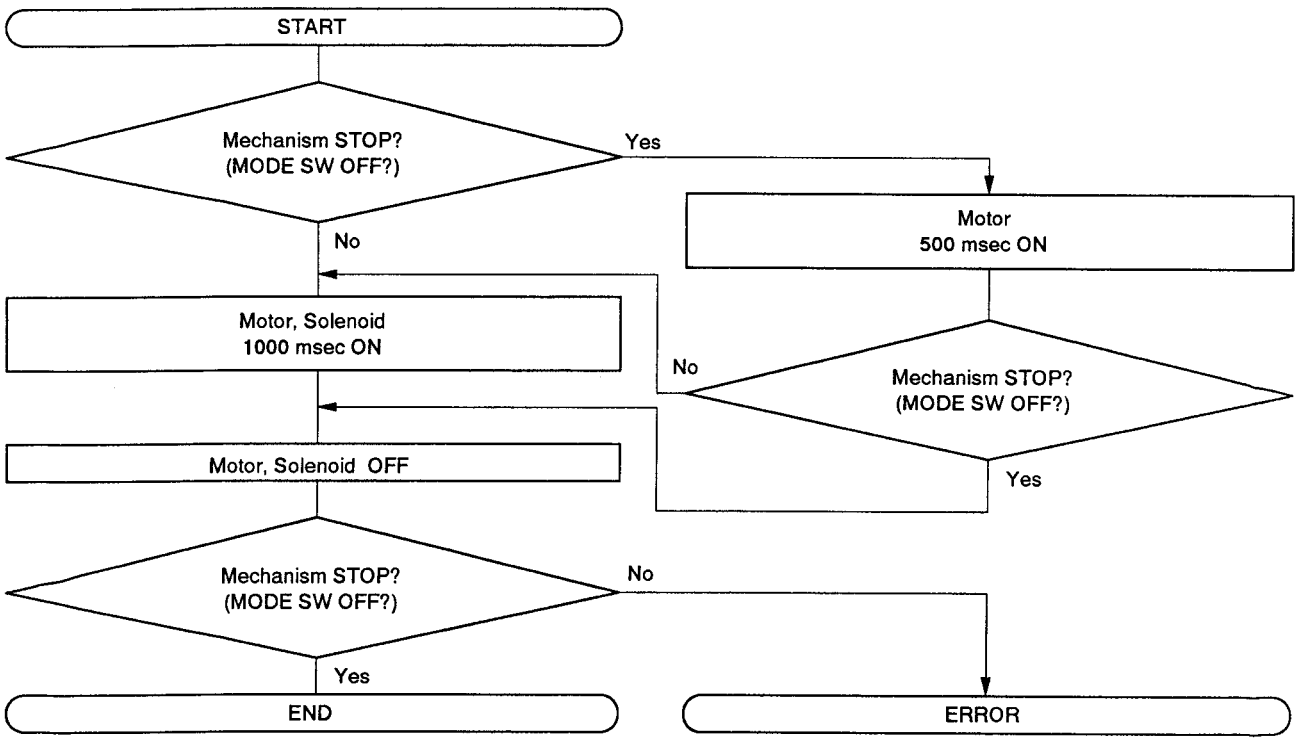
Sets the amplifier system port into the "non-active" condition.

(b) Mechanism Initializing

The initializing of the mechanism is performed as shown in the following figure in the order of 1 mechanism → 2 mechanism by setting both mechanisms into the "STOP" condition.

As the amplifier system circuit is unstable immediately after the power is turned on, key inputs (including the remote control unit) will not be accepted for about 4 seconds.

If the mechanism does not return to the "STOP" condition, it is determined as "error", and mechanism initializing is performed once again. If "error" occurs the second time, mechanism operations are stopped and "emergency" is set.



## 9.4 Amplifier System Control

| FUNCTION | DECK1 | DECK2 | $\overline{\text{LINE}}$ $\overline{\text{MUTE}}$ | 1REC MUTE | 1BIAS | 2REC MUTE | 2BIAS | DECODE | × 1 |
|---|---|---|---|---|---|---|---|---|---|
| | STOP | STOP OR FAST | L | H | L | H | L | L | H |
| | PLAY | | H | H | L | H | L | H | H |
| | PPAUSE | | L | H | L | H | L | H | H |
| | FAST | | L | H | L | H | L | L | H |
| | MS | | L | H | L | H | L | H | H |
| | REC | | H | L | H | H | L | L | H |
| | RPAUSE | | H | H | L | H | L | L | H |
| | RMUTE | | H | H | H | H | L | L | H |
| | STOP OR FAST | STOP | L | H | L | H | L | L | H |
| | | PLAY | H | H | L | H | L | H | H |
| | | PPAUSE | L | H | L | H | L | H | H |
| | | FAST | L | H | L | H | L | L | H |
| | | MS | L | H | L | H | L | H | H |
| | | REC | H | H | L | L | H | L | H |
| | | RPAUSE | H | H | L | H | L | L | H |
| | | RMUTE | H | H | L | H | H | L | H |
| × 1COPY | REC | PLAY | H | H | L | L | H | H | H |
| | RPAUSE | | H | H | L | H | L | H | H |
| | RMUTE | | H | H | L | H | H | H | H |
| × 2PLAY | × 2PLAY | × 2REC | H | H | L | L | H | H | L |
| PARA REC | REC | REC | H | L | H | L | H | L | H |
| | RPAUSE | RPAUSE | L | H | L | H | L | L | H |
| | RMUTE | RMUTE | H | H | H | H | H | L | H |

## 9.5 Automatic Tape Select Function

1. Playback EQ Switching

Performs the playback EQ 70 $\mu$ sec/120 $\mu$ sec switching for both sides I and II.

2. Input

Takes the SW information of the mechanism into the input port direct. Performs only types II and IV inputs for both sides I and II (CRO of CPU, MET terminal. SW ON at "L") to discriminate the TYPE of the tape.

3. Mechanism mode and input SW

| I Mechanism Mode | II Mechanism Mode | Playback System | Recording System |
|---|---|---|---|
| STOP, FAST | STOP, FAST | Side II SW | Side II SW |
| PLAY, PPAUSE, MS | STOP, FAST | Side I SW | Side II SW |
| REC, RPAUSE, RMUTE | STOP, FAST | Side II SW | Side I SW |
| STOP, FAST | PLAY, PPAUSE, MS | Side II SW | Side II SW |
| STOP, FAST | REC, RPAUSE, RMUTE | Side II SW | Side II SW |
| PLAY | REC, RPAUSE, RMUTE | Side I SW | Side II SW |

4. Output

| | | TYPE I (NOR) | TYPE II ($CrO_2$) | TYPE IV (METAL) |
|---|---|---|---|---|
| Playback System | $\overline{HI}$ | H | L | L |
| Recording System | CRO2 | L | H | H |
| | METAL | L | L | H |

## 9.6 Relay Dolby Function

1. Relay Dolby

Controls by using two dolby slide SWs exclusive for sides I and II for each dolby IC.

2. SW Input

Takes in the respective SW conditions of sides I and II with the key matrix.

3. Mechanism Mode, Dolby Display and Real Dolby Input SW

| I Mechanism Mode | II Mechanism Mode | Side I Display | Side II Display | DOLBY IC |
|---|---|---|---|---|
| STOP, FAST | STOP, FAST | Side I SW | Side II SW | Side II SW |
| PLAY, PPAUSE, MS | STOP, FAST | Side I SW | Side II SW | Side I SW |
| REC, RPAUSE, RMUTE | STOP, FAST | Side I SW | Side II SW | Side I SW |
| STOP, FAST | PLAY, PPAUSE, MS | Side I SW | Side II SW | Side II SW |
| STOP, FAST | REC, RPAUSE, RMUTE | Side I SW | Side II SW | Side II SW |
| PLAY | REC, RPAUSE, RMUTE | Side I SW | Side I SW | Side I SW |
| REC, RPAUSE, RMUTE | REC, RPAUSE, RMUTE | Side I SW | Side I SW | Side I SW |

For models without this relay dolby function, the SW of side II is always taken in to select the dolby type.

5. Output

| | DOL0 | DOL1 |
|---|---|---|
| Dolby OFF | H | L |
| Dolby B | L | H |
| Dolby C | L | L |

6. Mechanism Mode and Dolby Mute Control

| | Dolby Switching | |
|---|---|---|
| | LINE MUTE | REC MUTE |
| STOP | | |
| FF, REW | | |
| PLAY | ON | |
| PPAUSE | | |
| MS | | |
| REC | OFF | ON |
| RPAUSE | OFF | |
| RMUTE | OFF | |
| X1COPY | ON | OFF |
| X2COPY | ON | OFF |
| PARA REC | OFF | ON |

The "ON" in the table indicates the 150 msec forcible ON.
MUTE processing is not performed during OFF.

## 9.7 AUTO BLE Function

The AUTO BLE function corrects any random tape so that the recording playback frequency characteristics become flat.

1. Differences according to Models

①CT-W801R, CT-W851R (TWIN AUTO BLE, 3 point BLE)

Both sides I and II have its own correction circuit. The BLE data is output from the respective exclusive BLE output ports.

②CT-W701R (RELAY AUTO BLE, 3 point BLE)

The heads of sides I and II are tuned by switching the SWs at the correction circuit shared by both sides I and II. After tuning, the BLE data of both sides I and II are recorded by the CPU. The BLE data of the recording side is output from the BLE output port shared by sides I and II.

2. Accepted Conditions

- When the side performing AUTO BLE is "REC possible".
- When the side performing AUTO BLE is in the STOP mode, and other sides are STOP, FF, or REW.

3. Operations

- The AUTO BLE operations can be started by pressing the AUTO BLE key when the two conditions above are present.
- When the AUTO BLE is started, both the $\overline{\text{LINE MUTE}}$ terminal ("L" output) and BLEON terminal (Pin 53) turn on. When the BLEON terminal turns on, the line input becomes muted, DOLBY turns off, and the MPX filter turns on.
- After forwarding the tape for 1 second with FF (leader path), perform the following settings.
- After completing the following settings, rewind to the BLE start point with REW, and stop.

(a) Bias Setting

Change the bias current in the three stages; REF, − 10% and +10%. Record and playback the 400 Hz and 10 kHz signals at the respective bias values. Select the bias value at which the playback level difference is the minimum. Next, check that the 400 Hz playback level at this bias value is not greatly different from the level which is to be taken as the reference. If it is, re-select the bias value at which the level becomes closest to the reference level.

(b) Level Setting

Record and playback the 400 Hz signal while sweeping it in the 16 stage steps ( ± approximately 3 dB range. LEVEL DATA=0 to 15. REF. DATA is 8.), and set so that the playback level becomes closest to the level to be taken as the reference.

(c) EQ Setting

Record the 10 kHz signal while sweeping it in the 8 stage steps (± approximately 3 dB range. EQ DATA=0 to 7. REF. DATA is 5 for the NORMAL, $CrO_2$ TAPE, and 3 for the METAL TAPE.) Finally, record the 3 kHz with the reference EQ. Next, set so that the playback level becomes close to the level to be taken as the reference. If the 3 kHz playback level is lower than the level to be taken as the reference by more than 0.5 dB, perform mid-range correction (raise the mid-range level), and take the slack of the f characteristics in the vicinity of 3 kHz.

(d) Check points

Check points have been provided to prevent incorrect adjustments during AUTO BLE operations. Errors are determined when the various check points cannot be passed. When errors have been determined, the mechanism is stopped, BIAS, LEVEL and EQ are returned to their reference values, and the "ERR" blinking display is shown. This display continues until the normal display is returned by pressing a certain key.

- STOP check

Error is determined when the mechanism stops due to tape end. (When BLE is set, forcible STOP is set with tape end.)

- Blank check

Perform the 500 msec blank recording immediately before recording the test signal. Return to the center of this blank when rewinding. If it is blank at the start of playback, the tape is determined as being at its correct position. "Error" is determined if it is not blank.

- Recording signal rising check

The rising of the playback signal is most important for BLE. The signal is determined according to the time from this rising. The signal must rise within 500 msec from blank check at the latest. If this cannot be confirmed within this period, it is determined as "error".

- Leader tape check

Check if the tape is in the leader tape section by checking if the playback signal is present or absent immediately after EQ setting. Error is determined if there is no signal in the leader tape.

(e) Mask PLAY and Blank REC

In the mechanism, as the tape running also does not become stable immediately after PLAY mode assist has been completed, some time will be required for running stabilization. This time is 1.5 seconds. At the start of BIAS recording, at least 0.5 to 2 seconds are required for blank REC. The 1.5 seconds mask play is also performed before starting each check PLAY.

(f) Rewinding

For the BLE of conventional mechanisms, rewinding was performed by REW (FF) because the tape position could be determined with the tape counter. However, for the BLE of this unit, this method cannot be used as the tape counter lags very easily. The tape is therefore rewound using PLAY which has very little lagging. The rewinding amount is controled by time. However, the tape may advance more than required in some cases when the assist for this side cannot be performed because of the assists of other mechanisms due to stagger processing. This time during which the tape was advanced is measured, and the tape is advanced in the reverse direction for this time during the next PLAY operation. This enables an almost precise start position searching to be performed.

(g) RELAY AUTO BLE

This will be relayed to side II after those for side I have been completed by pressing the AUTO BLE key of side I in the RELAY MODE ON, if BLE has not been adjusted for both sides I and II. The RELAY mode is released when adjustments for side II start.

(h) Test Signal Frequency Switching

The test signal frequency switching is controlled in the following way using two FSEL0 and FSEL1 port outputs.

| Frequency | FSEL0 | FSEL1 |
|---|---|---|
| 400Hz | H | H |
| 3kHz | L | H |
| 10kHz | H | L |

For 2 POINT BLE, the 3 kHz control will not be performed.

(i) BLE related Port Output and BLE Data

| | BIAS*1 | BIAS*0 | DATA |
|---|---|---|---|
| −10% | L | H | 1 |
| REF | H | L | 2 |
| +10% | L | L | 0 |

| 400Hz | LEVEL*3 | LEVEL*2 | LEVEL*1 | LEVEL*0 | DATA |
|---|---|---|---|---|---|
| MIN | H | H | H | H | F |
| REF | H | L | L | H | 8 |
| MAX | L | L | L | L | 0 |

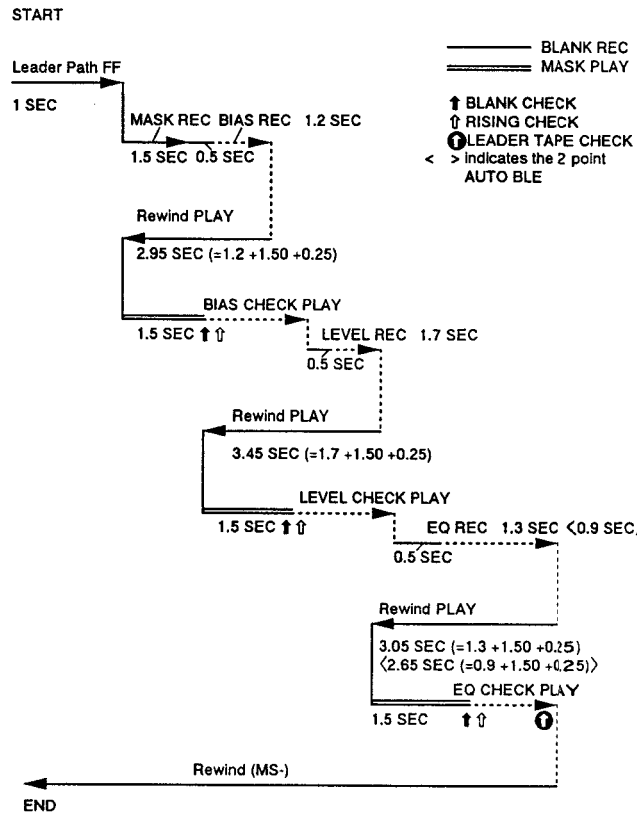
| 10kHz | EQ*2 | EQ*1 | EQ*0 | DATA 1 |
|---|---|---|---|---|
| MIN | H | H | H | 7 |
| REF | H (L) | L (H) | H (H) | 5 (3) |
| MAX | L | L | L | 0 |

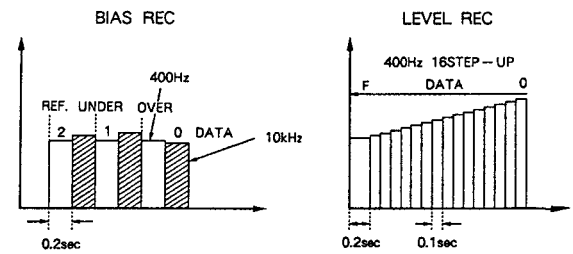
| 3kHz | EQ*3 | DATA |
|---|---|---|
| UP | L | DATA1 |
| REF | H | DATA1 + 8 |

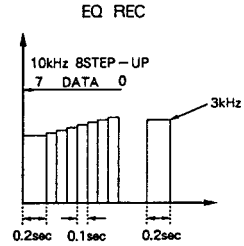
Side I becomes 1 and side II becomes 2 for *.
( ) indicates that for the metal tape.

The respective BLE DATAs of sides I and II can be checked on the counter for any mode by pressing the 2-PAUSE +1-FWD +2-FWD key simultaneously.

(j) AUTO BLE Time Chart




3kHz is not recorded and played back for 2 POINT BLE.

## 9.8 Sound EQ Function

Function which equalizes the input signal with a frequency characteristic variable circuit being provided at the line input. There are two positions;CAR for car stereos and PORTABLE for headphone stereos. These can be switched using the slide SWs.

• Accepted conditions

Modes which operate basically during recording only (CPU constantly checks the condition of the SW, and outputs to the port.)

1. Output

The CPU controls in the following way using the 3 bits;GEQ0, GEQ1 and GEQ2.

| Output Port | CAR | OFF | PORTABLE |
|---|---|---|---|
| GEQ0 | L | L | H |
| GEQ1 | H | L | H |
| GEQ2 | H | L | H |

2. Display

Displays in the following way using the counter and meter when the slide SW has been switched.

① Counter display

Displays "PORT" on side I and "ABLE" on side II for PORTABLE, and displays "CAR" on both sides for CAR one word at a time at an interval of 80 msec twice.

"P "→"PO "→"POR "→"PORT "→ "PORTA "→"PORTAB "→"PORTABL "→"PORTABLE" →Repeated once more.

② Meter Display

Synchronizes the frequency characteristic corrected by the sound EQ with the character of the counter display using the meter in a pseudo way, and displays every segment one at a time at an interval of 80 msec twice. The following will be displayed when the meters have all lighted up.

PORTABLE

■■■■□□■■
□□□□■■□□

OFF

□□□□□□□□
■■■■■■■■

CAR

■■□□□□■■
□□■■■■□□

3. Mechanism Mode, Mute Control and Display

| | Sound EQ Switching | | |
|---|---|---|---|
| | LINE MUTE | REC MUTE | Display |
| STOP | | | ○ |
| FF, REW | | | ○ |
| PLAY | | | × |
| PPAUSE | | | × |
| MS | | | × |
| REC | ON | ON | ○ |
| RPAUSE | ON | | ○ |
| RMUTE | ON | | ○ |
| X1COPY | | | × |
| X2COPY | | | × |
| PARA REC | ON | ON | ○ |

The "ON" in the table indicates the 150 msec forcible ON.

○·····Display ON

×·····Display OFF

## 9.9 CD Synchro Function

The CD synchro function sets the deck into the REC condition and the CD player into the PLAY condition, and performs tape copy from the CD with the one touch input of the CD SYNCRO key on the deck side when the PIONEER CD player is connected with a 2.5 $\phi$ monaural jack (2 wires) (Common GND with AUDIO jack).

1. Accepted Conditions

• Connected to the PIONEER CD player (corresponding to CD SYNCRO function) with the 2.5 $\phi$ monaural jack, and shares the GND with the AUDIO jack.

• A REC possible tape is inserted in either side I or II, or both sides I and II.

• When both sides I and II are in the STOP mode or only one side is in the FF, REW modes.

2. Operations

• Operates with the input of the CD SYNCHRO key when all three conditions above are present. At this time, the REC possible side (Side I when both sides are REC possible) starts REC with the CD SYNCHRO key rising edge input (press the key). Following, the CD starts PLAY with the CD SYNCHRO key falling edge input (Press the key), and the deck copies from the CD. Therefore, while the CD SYNCHRO key is being pressed, a blank is created on the tape.

• During the CD SYNCHRO COPY mode, the REC side only accepts the STOP key and the STOP mode is set. The opposite side of the side recording accepts the FF, REW and STOP keys and starts operating.

• In the case of tape end, the CD player searches for the head of the song which had been interrupted first, and then sets into the PLAY/PAUSE mode. (PLAY BACK PAUSE). Although the end processing is performed according to the reverse mode, when the tape becomes reversed, the CD player will not played but made to wait at PLAY/PAUSE for 10 seconds after REC has been set to let the leader section to pass by.
• If side II is in the FF or REW mode when relaying from side I to side II, the relay will not be performed.
• When the relay mode is on, relay from side I to II is performed when the CD player performs the first disc changing. (When side II can be relayed)
• When more than one minute has passed after both sides have stopped, the CD player which has been set into the PLAY BACK PAUSE mode will stop (fail-safe). If a tape is re-inserted during this time and the CD SYNCHRO key is pressed, the CD SYNCHRO COPY can be continued.
• In the case of disc end (when disc is not changed), the deck is set into REC/PAUSE and then stops after 1 minute (fail-safe). However, the CD SYNCHRO COPY can be continued once again by pressing the PLAY key of the CD player during this time.
• For disc changes during CD SYNCHRO COPY with a multi or twin CD player, the deck sets into REC/PAUSE during disc changing. The CD SYNCHRO COPY continues once again after the changing completes and the CD player becomes PLAY.
• The deck side has been adjusted so that the blank time created on the tape during tape end and disc change is 4 to 5 seconds.

3. The receiving and transmission format of the control signal between the deck and CD player during the CD SYNCHRO mode is as follows.

• When the deck commands the CD player

| CD Player Mode | TOCD |
|---|---|
| PLAY | "L" EDGE |
| PLAY BACK PAUSE | "H" EDGE |

• When the CD player commands the deck

| Deck Mode | FROM CD |
|---|---|
| REC/PAUSE | "H" EDGE |
| REC (PAUSE released) | "L" EDGE |

• When the deck informs the CD player of the current mode

| Deck Mode | TO CD |
|---|---|
| REC | "L" STATE |
| REC/PAUSE | "H" STATE |
| Other than above | "H" STATE |

• When the CD player informs the deck of the current mode

| CD Player Mode | FROM CD |
|---|---|
| PLAY, SEARCH | "L" STATE |
| PLAY BACK PAUSE | "L" STATE |
| Other than above | "H" STATE |

Note)The "H" and "L" in the table indicate the "active" after the outputs of the two CPU ports have been inverted via the buffer (Active received by the two CPU input ports).

## 9.10 Display Function

### PD4381A Indicator Lighting Mode

1. I FWD II FWD

| | | I | | | | II | | | | COPY | HI SPEED |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | REV | FWD | PLAY | REC | REV | FWD | PLAY | REC | | |
| I FWD | STOP | | ▶ | | | | | | | | |
| | FF | | ▶ (blink) | | | | | | | | |
| | REW | ◀ (blink) | ▶ | | | | | | | | |
| | MS + | | ▶ (blink) | ☼ (blink) | | | | | | | |
| | MS − | ◀ (blink) | ▶ | ☼ (blink) | | | | | | | |
| | PLAY | | ▶ | ○ | | | | | | | |
| | PPAUSE | | ▶ (blink) | ○ | | | | | | | |
| | REC | | ▶ | | ● | | | | | | |
| | RPAUSE | | ▶ (blink) | | ● | | | | | | |
| | RMUTE | | ▶ | | ● (blink) | | | | | | |
| II FWD | STOP | | | | | | ▶ | | | | |
| | FF | | | | | | ▶ (blink) | | | | |
| | REW | | | | | ◀ (blink) | ▶ | | | | |
| | MS + | | | | | | ▶ (blink) | ☼ (blink) | | | |
| | MS − | | | | | ◀ (blink) | ▶ | ☼ (blink) | | | |
| | PLAY | | | | | | ▶ | ○ | | | |
| | PPAUSE | | | | | | ▶ (blink) | ○ | | | |
| | REC | | | | | | ▶ | | ● | | |
| | RPAUSE | | | | | | ▶ (blink) | | ● | | |
| | RMUTE | | | | | | ▶ | | ● (blink) | | |
| × 1 COPY | | | ▶ | ○ | | | ▶ | | ● | □ | |
| × 2 COPY | | | ▶ | ○ | | | ▶ | | ● | □ | □ |

Those displayed with ☼ (blink) indicate a 160 msec blinking.
Those displayed with ▶ (blink) indicate a 320 msec blinking.
Others are lit.

2. I REV II REV

| | | I | | | | II | | | | COPY | HI SPEED |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | REV | FWD | PLAY | REC | REV | FWD | PLAY | REC | | |
| I FWD | STOP | ◀ | | | | | | | | | |
| | FF | ◀ | ▶ | | | | | | | | |
| | REW | ◀ | | | | | | | | | |
| | MS + | ◀ | | ☼ | | | | | | | |
| | MS − | ◀ | ▶ | ☼ | | | | | | | |
| | PLAY | ◀ | | ○ | | | | | | | |
| | PPAUSE | ◀ | | ○ | | | | | | | |
| | REC | ◀ | | | ● | | | | | | |
| | RPAUSE | ◀ | | | ● | | | | | | |
| | RMUTE | ◀ | | | ● | | | | | | |
| II FWD | STOP | | | | | ◀ | | | | | |
| | FF | | | | | ◀ | ▶ | | | | |
| | REW | | | | | ◀ | | | | | |
| | MS + | | | | | ◀ | | ☼ | | | |
| | MS − | | | | | ◀ | ▶ | ☼ | | | |
| | PLAY | | | | | ◀ | | ○ | | | |
| | PPAUSE | | | | | ◀ | | ○ | | | |
| | REC | | | | | ◀ | | | ● | | |
| | RPAUSE | | | | | ◀ | | | ● | | |
| | RMUTE | | | | | ◀ | | | ● | | |
| X1 COPY | | ◀ | | ○ | | ◀ | | | ● | □ | |
| X2 COPY | | ◀ | | ○ | | ◀ | | | ● | □ | □ |

Those displayed with ☼ indicate a 160 msec blinking.
Those displayed with ☼ indicate a 320 msec blinking.
Others are lit.

3. I FWD II REV

| | | I | | | | II | | | | COPY | HI SPEED |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | REV | FWD | PLAY | REC | REV | FWD | PLAY | REC | | |
| I FWD | STOP | | ▶ | | | | | | | | |
| | FF | | ▶ (fast) | | | | | | | | |
| | REW | ◀ (fast) | ▶ | | | | | | | | |
| | MS + | | ▶ (fast) | ☼ | | | | | | | |
| | MS − | ◀ (fast) | ▶ | ☼ | | | | | | | |
| | PLAY | | ▶ | ○ | | | | | | | |
| | PPAUSE | | ▶ (slow) | ○ | | | | | | | |
| | REC | | ▶ | | ● | | | | | | |
| | RPAUSE | | ▶ (slow) | | ● | | | | | | |
| | RMUTE | | ▶ | | ● (slow) | | | | | | |
| II FWD | STOP | | | | | ◀ | | | | | |
| | FF | | | | | ◀ | ▶ (fast) | | | | |
| | REW | | | | | ◀ (fast) | | | | | |
| | MS + | | | | | ◀ (fast) | | ☼ | | | |
| | MS − | | | | | ◀ | ▶ (fast) | ☼ | | | |
| | PLAY | | | | | ◀ | | ○ | | | |
| | PPAUSE | | | | | ◀ (slow) | | ○ | | | |
| | REC | | | | | ◀ | | | ● | | |
| | RPAUSE | | | | | ◀ (slow) | | | ● | | |
| | RMUTE | | | | | ◀ | | | ● (slow) | | |
| X1 COPY | | | ▶ | ○ | | ◀ | | | ● | □ | |
| X2 COPY | | | ▶ | ○ | | ◀ | | | ● | □ | □ |

Those displayed with ☼ (fast) indicate a 160 msec blinking.
Those displayed with ☼ (slow) indicate a 320 msec blinking.
Others are lit.

4. I REV II FWD

| | | I | | | | II | | | | COPY | HI SPEED |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | REV | FWD | PLAY | REC | REV | FWD | PLAY | REC | | |
| I FWD | STOP | ◀ | | | | | | | | | |
| | FF | ◀ | ▶ | | | | | | | | |
| | REW | ◀ | | | | | | | | | |
| | MS + | ◀ | | ☼ | | | | | | | |
| | MS − | ◀ | ▶ | ☼ | | | | | | | |
| | PLAY | ◀ | | ○ | | | | | | | |
| | PPAUSE | ◀ | | ○ | | | | | | | |
| | REC | ◀ | | | ● | | | | | | |
| | RPAUSE | ◀ | | | ● | | | | | | |
| | RMUTE | ◀ | | | ● | | | | | | |
| II FWD | STOP | | | | | | ▶ | | | | |
| | FF | | | | | | ▶ | | | | |
| | REW | | | | | ◀ | ▶ | | | | |
| | MS + | | | | | | ▶ | ☼ | | | |
| | MS − | | | | | ◀ | ▶ | ☼ | | | |
| | PLAY | | | | | | ▶ | ○ | | | |
| | PPAUSE | | | | | | ▶ | ○ | | | |
| | REC | | | | | | ▶ | | ● | | |
| | RPAUSE | | | | | | ▶ | | ● | | |
| | RMUTE | | | | | | ▶ | | ● | | |
| X1 COPY | | ◀ | | ○ | | | ▶ | | ● | □ | |
| X2 COPY | | ◀ | | ○ | | | ▶ | | ● | □ | □ |

Those displayed with ☼ indicate a 160 msec blinking.
Those displayed with ☼ indicate a 320 msec blinking.
Others are lit.

## 9.11 Test Mode

| MODE NO. | Display | Input key | LINE MUTE | 2REC MUTE | 2 BIAS | 1REC MUTE | 1 BIAS | Adjustment and Check Contents |
|---|---|---|---|---|---|---|---|---|
| 0 | 0 | STOP | ON | ON | OFF | ON | OFF | |
| 1 | 1 | RELAY/ SKIP | ON | ON | OFF | ON | OFF | ◇SW check<br>• When there is no "half", the respective counters will display "HALF".<br>• Incorrect erasure detection check<br>FWD recording possible : "►" display lights up<br>REV recording possible : "◄" display lights up<br>• Timer SW check<br>TIMER REC : "FADE"<br>OFF : "[HI −]"<br>TIMER PLAY : "COPY"<br>• Reverse SW check<br>⇄ : "BLE"<br>⮌ : "I"<br>⟲ : "II"<br>• Sound EQ SW check<br>PORTABLE : "[CD SYNC]"<br>OFF : "RELAY/SKIP"<br>CAR : "PLAY"<br>• Tape detection check<br>Side II check<br>NORMAL : Lch + 4dB lights up<br>Rch + 4 dB lights up<br>$CrO_2$ : Lch + 4 dB turns off<br>Rch + 4 dB lights up<br>METAL : Lch + 4 dB turns off<br>Rch + 4 dB turns off<br><br>Side I check<br>NORMAL : Lch − 20dB lights up<br>Rch − 20dB lights up<br>$CrO_2$ : Lch − 20dB turns off<br>Rch − 20dB lights up<br>METAL : Lch − 20dB turns off<br>Rch − 20dB turns off |
| 2 | 2<br><br>400<br>(Side I) | NORMAL SPEED | OFF | OFF | OFF | OFF | OFF | ◇For AUTO BLE 400 Hz<br>OSC output level adjustment mode<br>• Adjust with meter so that − 1 dB blinks.<br>(LINE OUT output = − 26 dBv)<br>• Meter becomes BLE range. |

| MODE NO. | Display Side II | Input key | LINE MUTE | 2REC MUTE | 2 BIAS | 1REC MUTE | 1 BIAS | Adjustment and Check Contents |
|---|---|---|---|---|---|---|---|---|
| 3 | 3<br>10k<br>(Side I) | HIGH SPEED | OFF | OFF | OFF | OFF | OFF | ◇For AUTO BLE 10 kHz<br>OSC output level adjustment mode<br>• Adjust with meter so that −1 dB blinks.<br>(LINE OUT output = −26 dBv)<br>• Meter becomes BLE range. |
| 4 | 4<br>3k<br>(Side I) | 2 − BLE | OFF | OFF | OFF | OFF | OFF | ◇For AUTO BLE 3 kHz<br>OSC output level adjustment mode<br>• Adjust with meter so that −1 dB blinks.<br>(LINE OUT output = −26 dBv)<br>• Meter becomes BLE range.<br>Not for 2 POINT BLE. |
| 5 | 5 | FWD<br>REV<br>FF<br>REW | OFF | ON | OFF | ON | OFF | ◇Tape speed adjustment mode<br>• During play (excluding during assist), double speed PLAY is set by inputting the FAST key (FF of either sides I and II or REW key).<br>During double speed PLAY, normal PLAY is set by inputting the FWD or REW key.<br>• PLAY is possible even in the "No Half" condition.<br>◇Auto stop check<br>• Only for this mode, the auto stop at sudden tape end is 1 second (Normally 4 seconds).<br>• Normal reverse operations are performed. However if reverse is performed during double speed PLAY, the normal PLAY is set.<br>◇BLANK SKIP check<br>• Only for this mode, the BLANK SKIP function operates if the "no signal" condition continues for 4.7 seconds in the "PLAY" condition (Normally 15 seconds.) |
| 6 | 6 | 2 − CTR RESET | ON | ON | ON | ON | ON | ◇Erasure current check mode<br>• Erase current check according to TAPE TYPE is possible. "BIAS" blinking display is set. |
| 7 | 7 | 2 − CTR MODE | OFF | OFF | OFF | OFF | OFF | ◇Mute off mode<br>Mode which turns both LINE MUTE and REC MUTE off. |
| 8 | – | – | – | – | – | – | – | ———— |

| MODE NO. | Display | Input key | LINE MUTE | 2REC MUTE | 2 BIAS | 1REC MUTE | 1 BIAS | Adjustment and Check Contents |
|---|---|---|---|---|---|---|---|---|
| 9 | 9 | 2 – MUTE | ON | ON | ON | ON | OFF | Side II BIAS SWEEP mode (BIAS pattern display) |
| 10 | A | 2 – PAUSE | OFF | OFF | OFF | ON | OFF | Side II LEVEL SWEEP mode (LEVEL pattern display) |
| 11 | b | 2 – REC | OFF | OFF | OFF | ON | OFF | Side II EQ SWEEP mode (EQ pattern display) |
| 12 | – | – | – | – | – | – | – | ———— |
| 13 | d | 1 – MUTE | ON | ON | OFF | ON | ON | Side I BIAS SWEEP mode (BIAS pattern display) |
| 14 | E | 1 – PAUSE | OFF | ON | OFF | OFF | OFF | Side I LEVEL SWEEP mode (LEVEL pattern display) |
| 15 | F | 1 – REC | OFF | ON | OFF | OFF | OFF | Side I EQ SWEEP mode (EQ pattern display) |

◇Setting the test mode

When both sides I and II are in the STOP mode, the test mode can be set by setting the reverse mode SW to ⇄ mode and short – circuiting the fixed jumper wire.

◇Releasing the test mode

The test mode can be released by pressing the COUNTER RESET key of side I or turning off the power.

◇CD SYNCHRO check (Can be checked in any of the above modes.)

- CD SYNCHRO key check·····While the CD SYNCHRO key is pressed, the [REC] display of side II will be lit (Only if a cable is connected to the CD SYNCHRO jack.)
- Input/output signal check.·····The [REC] display will light up while the COUNTER MODE key of side I is pressed only if a short – circuited cable is connected to the input/output.

## 9.12 Demonstration Function

- Mode which performs demonstration display.

◇Accepted Conditions

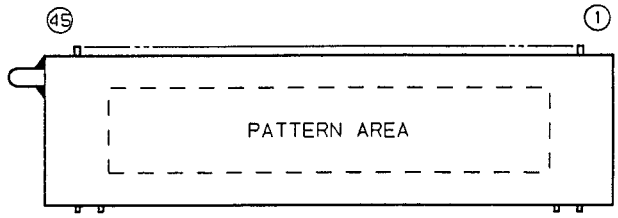
- When both sides I and II are in the STOP mode.

◇Operations

- When both the above conditions are present, the demonstration mode can be set by pressing the 2-COUNTER RESET key and 2-PAUSE key simultaneously.
- This mode can be released by outputting/inputting the "half", key inputs or turning off the power.

# CT-W801R, CT-W851R, CT-W701R

## • FL INFORMATION




### Pin Connection

| PIN NO. | 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 |
|---|---|
| CONNECTION | F2 F1 NP NP NP P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 P17 P18 P19 P20 P21 P22 P23 NC NC NC

# 10. CIRCUIT DESCRIPTIONS

## ● SOUND EQ CIRCUIT

### 10.1 Purpose

More and more people are recording their favorite music onto cassette tapes and then listening to them using a portable stereo or car stereo.

However, when a tape recorded in the normal way on conventional equipment is played back through a portable stereo or car stereo, the low and high frequency ranges are often not strong enough due to the characteristics of the headphones or the in-car environment.

The new Sound EQ function boosts the level of these frequencies by altering the frequency characteristics of the music signal during recording. This allows users to produce tapes that have sonic characteristics ideal for playback on portable stereos or car stereos.

### 10.2 Operation

Operation is a simple as setting the SOUND EQ switch to either PORTABLE or CAR, as appropriate, before beginning recording. When the setting is made, the indication PORTABLE or CAR appears on the fluorescent counter display for a few seconds and the level meter changes to show the frequency curve.

### 10.3 Features

- The frequency characteristics of the line input are changed to match the requirements of portable stereos or car stereos. This has no adverse effects on S/N ratio or distortion levels.
- When Sound EQ is combined with BLE, compensation for the tape's specific characteristics can be performed before recording optimized for portable stereos or car stereos takes place. This ensures that the amount of boost will not vary from one cassette to another, allowing the creation of even more effective tapes.

### 10.4 Recording Frequency Compensation for Car Stereo Applications

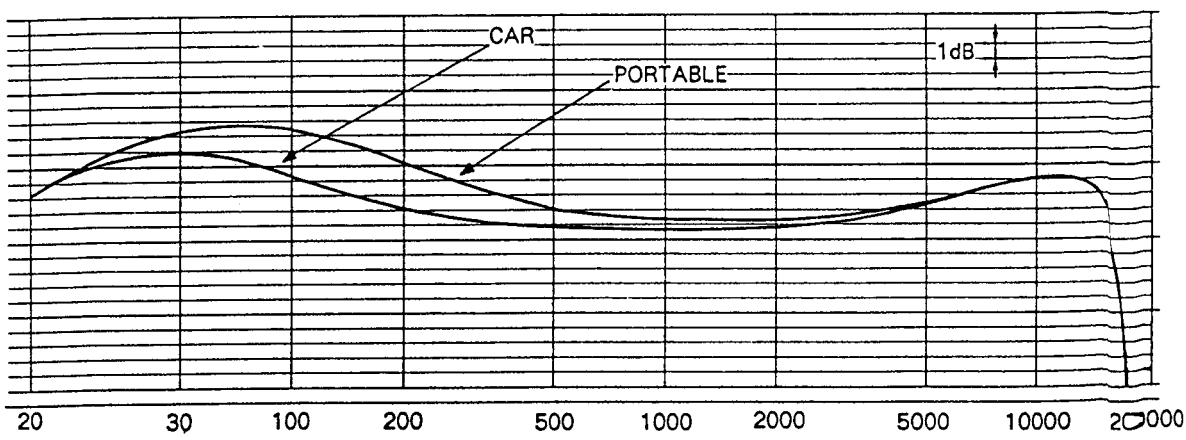
There are many restrictions on where and how speakers can be installed in a car due to the complex configuration of the car interior and its small capacity of around 3 m³ quite small compared with a normal audio listening room. Under these circumstances, car speakers tend to have small-di-ameter diaphragms. Also, depending on the details of the installation, there may be a great deal of noise that leaks in from behind the speakers. Both of these factors work against the effective reproduction of low frequency sounds.

In addition, the sound spectrum of the noise produced when a car is running shows an increase in intensity at the low end of the frequency range. This low range noise tends to mask the bassportion of the music being played through the speakers. In order to improve the low frequency characteristics peculiar to cars, Sound EQ boosts the level of a frequency band centering on the frequencies between 40 and 50 Hz.

There is also a tendency for treble reproduction to be insufficient in card due to poor speaker orientation and the presence of objects such as seats that absorb high frequency sounds. To compensate for this, a slight boost in the high range is also added in order to create a sense of increased spaciousness.

### 10.5 Recording Frequency Compensation for Portable Stereo Applications

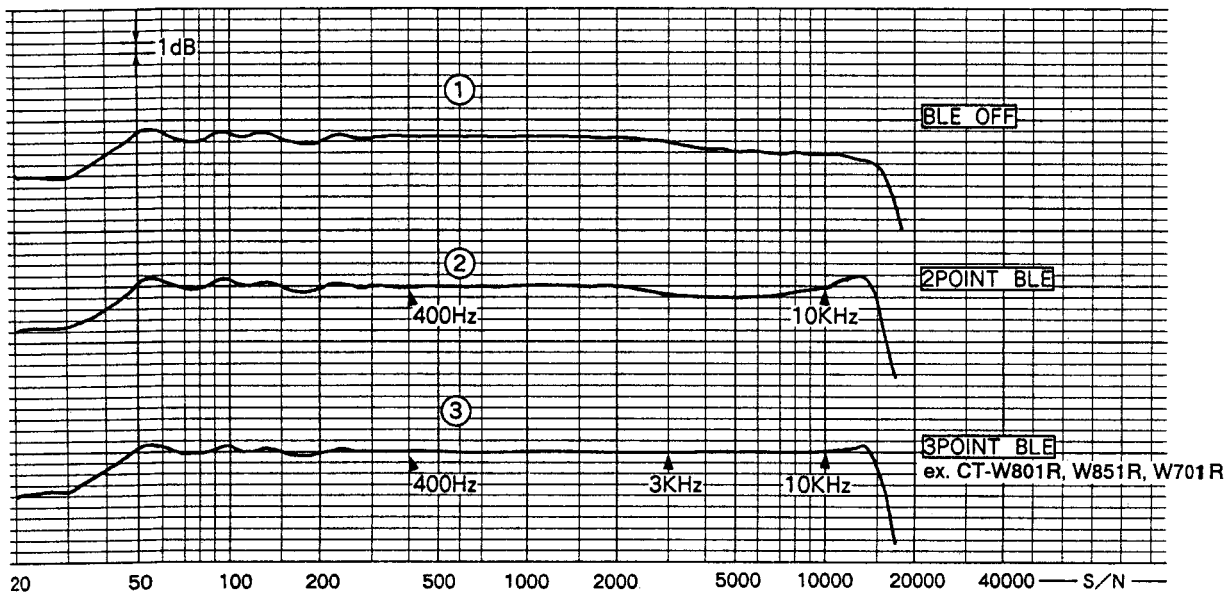
The headphones used with portable stereos can not match the bass response of full-sized room speaker systems due to factors such as the smallness of their driver diaphragms, the point at which the electrical music signal is converted into sound waves. To compensate for this, Sound EQ boosts the frequencies centered around 70 Hz. Also, the high frequency reproduction characteristics of headphone stereos are generally inferior to those of standard cassette decks due to factors such as head azimuth misalignment, which can easily occur if the unit is dropped or bumped. To compensate for this, a slight boost in the high range is also added to provide added ambience.




FREQUENCY RESPONSE (LINE) MPX ON

## ● SUPER AUTO BLE (First Double Deck with a 3-point BLE)

In conventional 2 head units, bias, level and equalizer were tuned using the 2-point AUTO BLE (400 Hz and 10 kHz) to flatten the frequency characteristic. Although most tapes could be flattened by this method, medium band correction (3 kHz) has been added and the dip of medium band which rarely occurs has been improved this time to flatten the frequency characteristic even more. The 3-point BLE has already been used in 3 heads units to perform adjustments. However, this is the first time it is used in a 2 heads unit.



# 11. FOR CT-W801R/SD, CT-W851R/HEM AND HB TYPES

## CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

### The CT-W801R/SD, CT-W851R/HEM, HB and CT-W801R/KUC have the same construction except for the following:

| Mark | Symbol & Description | Part No. | | | | Remarks |
|---|---|---|---|---|---|---|
| | | CT-W801R/ KUC type | CT-W801R/ SD type | CT-W851R/ HEM type | CT-W851R/ HB type | |
| ⊙ | Mother unit | RWM1471 | RWM1539 | RWM1472 | RWM1472 | |
| NSP | MAIN unit | RWZ2486 | RWZ2685 | RWZ2505 | RWZ2505 | |
| NSP | HP, MIC unit | RWZ2487 | RWZ2686 | RWZ2506 | RWZ2506 | |
| NSP | OPERATE SW(1) unit | RWZ2488 | RWZ2687 | RWZ2507 | RWZ2507 | |
| NSP | OPERATE SW(2) unit | RWZ2489 | RWZ2688 | RWZ2508 | RWZ2508 | |
| NSP | DISPLAY unit | RWZ2490 | RWZ2689 | RWZ2509 | RWZ2509 | |
| NSP | TR SEC unit | RWZ2491 | RWZ2690 | RWZ2510 | RWZ2510 | |
| ⚠ | Strain relief | CM – 22C | CM – 22B | CM – 22B | CM – 22B | |
| ⚠ | AC power cord | PDG1015 | PDG1013 | PDG1003 | PDG1036 | |
| ⚠ | Power transformer (AC120V) | RTT1165 | ..... | ..... | ..... | |
| ⚠ | Power transformer (AC110/120 – 127/220/240V) | ..... | RTT1167 | ..... | ..... | |
| ⚠ | Power transformer (AC220 – 230/230 – 240V) | ..... | ..... | RTT1166 | RTT1166 | |
| ⚠ | FU1, FU2 Fuse (1.5A) | REK1001 | ..... | ..... | ..... | |
| ⚠ | FU1, FU2 Fuse (T1.6A) | ..... | REK – 102 | REK – 102 | REK – 102 | |
| ⚠ | Voltage selector (AC110/120 – 127/220/240V) | ..... | PSB1002 | ..... | ..... | |
| | FL lens | RAH2079 | RAH2079 | RAH2080 | RAH2080 | |
| | Front panel assembly | RXX1518 | RXX1518 | RXX1517 | RXX1517 | |
| ⊙ | Mechanism unit (Deck I) | RYM1169 | RYM1169 | RYM1172 | RYM1172 | |
| ⊙ | Mechanism unit (Deck II) | RYM1170 | RYM1170 | RYM1173 | RYM1173 | |
| NSP | Rear panel | RNA1569 | RNA1572 | RNA1570 | RNA1571 | |
| NSP | SW bracket | RNE1441 | ..... | ..... | ..... | |
| NSP | Capacitor sleeve A | ..... | REC – 150 | REC – 150 | REC – 150 | for C1203) |
| NSP | Front panel | RAH2065 | RAH2065 | RAH2068 | RAH2066 | |
| | Packing case | RHG1368 | RHG1370 | RHG1369 | RHG1369 | |
| | Connection cord (with mini plug) | PDE – 319 | PDE – 319 | ..... | ..... | |
| | Remote control unit | ..... | ..... | RPX1057 | RPX1057 | |
| | Battery cover | ..... | ..... | PZN1010 | PZN1010 | |
| | Operating instructions (English) | RRB1120 | ..... | ..... | RRB1120 | |
| | Operating instructions (Spanish) | ..... | RRD1123 | ..... | ..... | |
| | Operating instructions (French/German/Italian/ Dutch/Swedish/Spanish/Portuguese) | ..... | ..... | RRE1063 | ..... | |

### MAIN UNIT

### RWZ2685, RWZ2505 and RWZ2486 have the same construction except for the following:

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | RWZ2486 | RWZ2685 | RWZ2505 | |
| | D910-912 | 1SS254 | 1SS254 | ..... | |
| | C910 | CKCYF103Z50 | CKCYF103Z50 | ..... | |
| | R719, 720 | RD1/6PM332J | RD1/6PM222J | RD1/6PM222J | |
| | JA902, 903 | RKN1004 | RKN1004 | ..... | |

## DISPLAY UNIT

**RWZ2509 and RWZ2490 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RWZ2490 | RWZ2509 | |
| | V1501 | RAW1105 | RAW1107 | |

**Note:** Although RWZ2689 and RWZ2490 are different in part number, they have the same service parts.

## OPERATE SW(1) UNIT

**Although RWZ2687, RWZ2507 and RWZ2488 are different in part number, they have the same service parts.**

## OPERATE SW(2) UNIT

**Although RWZ2688, RWZ2508 and RWZ2489 are different in part number, they have the same service parts.**

## HP, MIC UNIT

**Although RWZ2506, RWZ2686 and RWZ2487 are different in part number, they have the same service parts.**

## TR SEC UNIT

**Although RWZ2690, RWZ2510 and RWZ2491 are different in part number, they have the same service parts.**

## MECHANISM UNIT(DECK I)

**RYM1172 and RYM1169 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RYM1169 | RYM1172 | |
| | BELT MAIN | REB1159 | REB1162 | |
| | ASS'Y FLYWHEEL L | RXA1423 | RXA1476 | |
| | ASS'Y FLYWHEEL R | RXA1424 | ..... | |
| | ASS'Y MOTOR | RXM1052 | RXM1051 | |
| | GEAR FW R | ..... | RNK1733 | |
| | FLYWHEEL R | ..... | RXA1415 | |

## MECHANISM UNIT(DECK II)

**RYM1173 and RYM1170 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RYM1170 | RYM1173 | |
| | BELT MAIN | REB1159 | REB1162 | |
| | ASS'Y FLYWHEEL L | RXA1423 | RXA1476 | |
| | ASS'Y FLYWHEEL R | RXA1424 | ..... | |
| | ASS'Y MOTOR | RXM1052 | RXM1051 | |
| | GEAR FW R | ..... | RNK1733 | |
| | FLYWHEEL R | ..... | RXA1415 | |

# 12. FOR CT-W701R/HEM AND HB TYPES

## CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

### The CT-W701R/HEM, HB and CT-W701/KUC have the same construction except for the following:

| Mark | Symbol & Description | Part No. | | | Remarks |
|---|---|---|---|---|---|
| | | CT-W701R KUC type | CT-W701R/ HEM type | CT-W701R/ HB type | |
| ⊙ | Mother unit | RWM1473 | RWM1474 | RWM1474 | |
| NSP | MAIN unit | RWZ2511 | RWZ2517 | RWZ2517 | |
| NSP | HP unit | RWZ2512 | RWZ2518 | RWZ2518 | |
| NSP | OPERATE SW(1) unit | RWZ2513 | RWZ2519 | RWZ2519 | |
| NSP | OPERATE SW(2) unit | RWZ2514 | RWZ2520 | RWZ2520 | |
| NSP | DISPLAY unit | RWZ2515 | RWZ2521 | RWZ2521 | |
| NSP | TR SEC unit | RWZ2516 | RWZ2522 | RWZ2522 | |
| ⚠ | Strain relief | CM – 22C | CM – 22B | CM – 22B | |
| ⚠ | AC power cord | PDG1015 | PDG1003 | PDG1036 | |
| ⚠ | Power transformer (AC120V) | RTT1165 | ..... | ..... | |
| ⚠ | Power transformer (AC220 – 230/230 – 240V) | ..... | RTT1166 | RTT1166 | |
| ⚠ | FU1, FU2 Fuse (1.5A) | REK1001 | ..... | ..... | |
| ⚠ | FU1, FU2 Fuse (T1.6A) | ..... | REK – 102 | REK – 102 | |
| | FL lens | RAH2079 | RAH2081 | RAH2081 | |
| ⊙ | Mechanism unit (Deck I) | RYM1169 | RYM1172 | RYM1172 | |
| ⊙ | Mechanism unit (Deck II) | RYM1170 | RYM1173 | RYM1173 | |
| | Insulator | ..... | PNW1912 | PNW1912 | |
| | Foot assembly | PXA1201 | ..... | ..... | |
| NSP | Rear panel | RNA1573 | RNA1574 | RNA1575 | |
| NSP | SW bracket | RNE1441 | ..... | ..... | |
| NSP | Capacitor sleeve A | ..... | REC – 150 | REC – 150 | (for C1203) |
| | Packing case | RHG1371 | RHG1372 | RHG1372 | |
| | Operating instructions (English) | RRB1120 | ..... | RRB1120 | |
| | Operating instructions (French/German/Italian/Dutch/Swedish/ Spanish/Portuguese) | ..... | RRE1063 | ..... | |

### MAIN UNIT

### RWZ2517 and RWZ2511 have the same construction except for the following:

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RWZ2511 | RWZ2517 | |
| | R719, 720 | RD1/6PM332J | RD1/6PM222J | |

## DISPLAY UNIT

**RWZ2521 and RWZ2515 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RWZ2515 | RWZ2521 | |
| | V1501 | RAW1105 | RAW1107 | |

## OPERATE SW(1) UNIT

**Although RWZ2519 and RWZ2513 are different in part number, they have the same service parts.**

## OPERATE SW(2) UNIT

**Although RWZ2520 and RWZ2514 are different in part number, they have the same service parts.**

## HP UNIT

**Although RWZ2518 and RWZ2512 are different in part number, they have the same service parts.**

## TR SEC UNIT

**Although RWZ2522 and RWZ2516 are different in part number, they have the same service parts.**

## MECHANISM UNIT(DECK I)

**RYM1172 and RYM1169 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RYM1169 | RYM1172 | |
| | BELT MAIN | REB1159 | REB1162 | |
| | ASS'Y FLYWHEEL L | RXA1423 | RXA1476 | |
| | ASS'Y FLYWHEEL R | RXA1424 | ..... | |
| | ASS'Y MOTOR | RXM1052 | RXM1051 | |
| | GEAR FW R | ..... | RNK1733 | |
| | FLYWHEEL R | ..... | RXA1415 | |

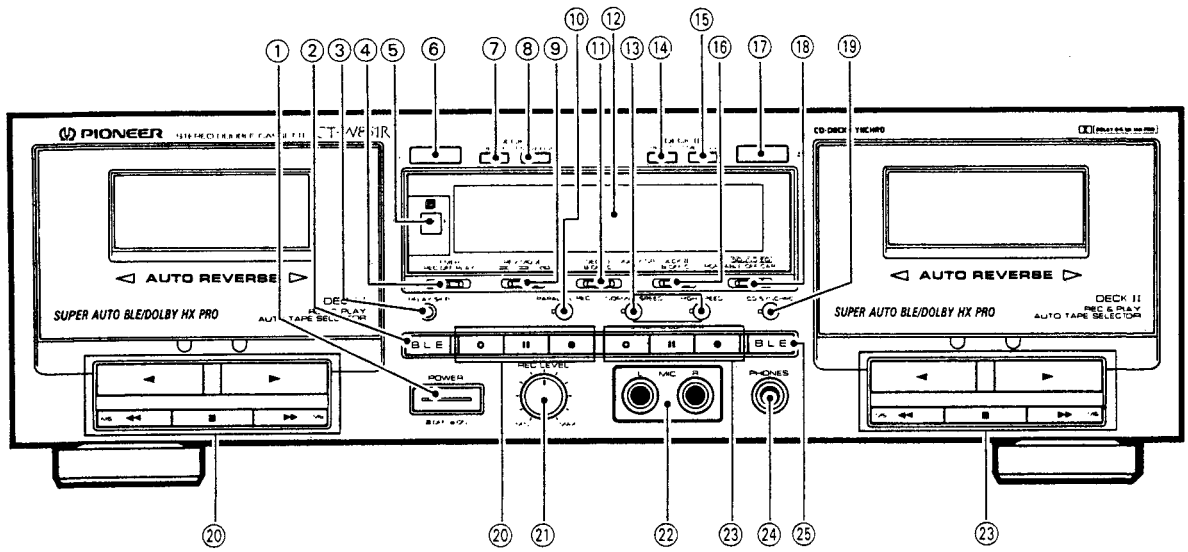
## MECHANISM UNIT(DECK II)

**RYM1173 and RYM1170 have the same construction except for the following:**

| Mark | Symbol & Description | Part No. | | Remarks |
|---|---|---|---|---|
| | | RYM1170 | RYM1173 | |
| | BELT MAIN | REB1159 | REB1162 | |
| | ASS'Y FLYWHEEL L | RXA1423 | RXA1476 | |
| | ASS'Y FLYWHEEL R | RXA1424 | ..... | |
| | ASS'Y MOTOR | RXM1052 | RXM1051 | |
| | GEAR FW R | ..... | RNK1733 | |
| | FLYWHEEL R | ..... | RXA1415 | |

# 13. PANEL FACILITIES

The illustration shows model CT-W851R.




① **POWER switch ( ■ OFF/ ▬ ON)**
② **DECK I AUTO BLE button**
③ **RELAY/SKIP button**
④ **TIMER mode switch (REC/OFF/PLAY)**
⑤ **Remote sensor (CT-W851R only)**
⑥ **DECK I eject button ( ⏏ )**
- If the tape is moving (recording, playback, tape winding etc.), press the stop ( ■ ) button before pressing this button.

*NOTE:*
*If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject ( ⏏ ) button.*

⑦ **DECK I counter reset button (RESET)**
⑧ **DECK I counter mode button (TIME/COUNT)**
⑨ **Reverse mode switch (REV MODE)**
⑩ **Parallel recording button (PARALLEL REC) (CT-W851R/CT-W801R only)**
⑪ **DECK I DOLBY* NR switch (B/OFF/C)**

*
- *Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.*
- *"DOLBY", the double-D symbol ◻◻ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.*

⑫ **Function display**
⑬ **Synchro copy buttons (SYNCHRO COPY I▶II)**
NORMAL SPEED: Normal speed copy
HIGH SPEED : Double speed copy
⑭ **DECK II counter reset button (RESET)**
⑮ **DECK II counter mode button (TIME/COUNT)**
⑯ **DECK II DOLBY* NR switch (B/OFF/C)**
⑰ **DECK II eject button ( ⏏ )**
- If the tape is moving (recording, playback, tape winding etc.), press the stop ( ■ ) button before pressing this button.

*NOTE:*
*If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject ( ⏏ ) button.*

⑱ **SOUND EQ switch (PORTABLE/OFF/CAR)**
⑲ **CD•DECK SYNCHRO recording button (CD SYNCHRO)**
⑳ **DECK I operation buttons**
- ◀ : Reverse playback
- ▶ : Forward playback
- ◀◀/MS: Fast reverse/music search
- ■ : Stop
- ▶▶/MS: Fast forward/music search
- O : Recording mute
- ▮▮ : Pause
- ● : Recording

㉑ **Recording level control (REC LEVEL)**
㉒ **Microphone jacks (MIC L,R) (CT-W851R/CT-W801R only)**
㉓ **DECK II operation buttons**
- ◀ : Reverse playback
- ▶ : Forward playback
- ◀◀/MS: Fast reverse/music search
- ■ : Stop
- ▶▶/MS: Fast forward/music search
- O : Recording mute
- ▮▮ : Pause
- ● : Recording

㉔ **Headphones jack (PHONES)**
㉕ **DECK II AUTO BLE button**

# 14. SPECIFICATIONS

System ..... 4 track, 2-channel stereo
Heads ..... "Hard Permalloy" recording/playback head × 2
"Ferrite" erasing head × 2
Motor ..... DC servo motor × 2
Wow and Flutter ..... No more than 0.09% (WRMS)
No more than ±0.19% (DIN)
Fast Winding Time ..... Approximately 120 seconds
(C-60 tape)

Frequency Response
– 20 dB recording:
TYPE IV (Metal) tape ..... 25 to 20,000 Hz
TYPE II (Chrome) tape ..... 25 to 19,000 Hz
TYPE I (Normal) tape ..... 25 to 18,000 Hz
Signal-to-Noise Ratio
Dolby NR OFF ..... More than 57 dB
Noise Reduction Effect
Dolby B-type NR ON ..... More than 10 dB (at 5 kHz)
Dolby C-type NR ON ..... More than 19 dB (at 5 kHz)
Harmonic Distortion ..... No more than 0.8%
(at –4 dB: 160 nwb/m)
Input (Sensitivity)
LINE (INPUT) ..... 100 mV (Input impedance 38 kΩ)
MIC ..... 0.63 mV (CT-W851R/CT-W801R only)
Output (Reference level)
LINE (OUTPUT) ..... 0.5 V (Output impedance 3.2 kΩ)
Headphone ..... 0.63 mW (Load impedance 8 Ω)

## Subfunctions

- AUTO BLE tuning system
- Automatic reverse
- Double recording/playback reverse
- DOLBY HX PRO recording function
- DOLBY B/C types NR
- Relay recording
- Parallel recording (CT-W851R/CT-W801R only)
- Music search over ±15 selections
- Synchronized copy start
- High-speed and normal-speed copy (DECK I→DECK II)
- Relay playback/blank skip
- CD•DECK SYNCHRO recording capability
- Peak level meter with peak-hold function
- MPX FILTER (Interlocks with DOLBY NR switch)
- Automatic space recording mute
- Automatic tape selector
- SR System remote control available (CT-W801R/CT-W701R only)
- TIMER Recording
- TIMER Playback (Automatic relay on)
- 2-mode electronic 4-digit twin tape counter
- Michrophone jacks (CT-W851R/CT-W801R only)
- Headphone jack
- Wireless remote control operation (CT-W851R only)
- SOUND EQ function

## Miscellaneous

Power Requirements
U.S., Canadian models ..... AC 120V, 60 Hz
U.K. model ..... AC 230–240 Volts~, 50/60 Hz
Multivoltage model ..... AC 110V/120V–127V/220V/240V
(switchable), 50/60 Hz

Power Consumption
CT-W851R/CT-W801R ..... 26W
CT-W701R ..... 17W
Dimensions
CT-W851R/CT-W801R ..... 420(W) × 135(H) × 250(D) mm
CT-W701R
U.S. and Canadian model ..... 420(W) × 130(H) × 250(D) mm
16-2/4(W) × 5(H) × 9-13/16(D) in
U.K. model ..... 420(W) × 135(H) × 250(D) mm
Weight (without package)
CT-W851R/CT-W801R ..... 4.7 kg (10 lb 5 oz.)
CT-W701R ..... 4.6 kg (10 lb 2 oz.)

## Accessories

Operating instructions ..... 1
Connection cord with pin plugs ..... 2
SR Remote control cord (CT-W801R/CT-W701R only) ..... 1
CD•DECK SYNCHRO control cord ..... 1
Remote control unit (CT-W851R only) ..... 1
Dry cell batteries (size AAA/IEC R03) (CT-W851R only) ..... 2

*NOTE:*
*Specifications and design subject to possible modifications without notice, due to improvements.*